Degree Programs in Comprehensive Human Sciences

<Doctoral Program in Neuroscience>

Field of Research	Faculty	Detailed Description of Research Field
Neuroscience	ABE Takashi	・Neurobehavioral consequences of sleep loss ・Mitigating performance deficits from sleep loss ・Understanding the psychological functions of sleep ・Developing novel methods for measuring sleep and alertness
	AYABE Saho	・Human olfactory perception/cognition and odor hedonics ・Haptic space perception/cognition and perceptual learning ・Perception/cognition of facial expressions
	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
	OISHI Yo	・Short-sleeper mice to elucidate sleep function and mechanisms ・Generation of sleepwalking-like state to elucidate the neural mechanisms
	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
	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
	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
	SAKAGUCHI Masanori	・Functional significance of sleep in memory ・Elucidation and application of neuronal plasticity ・Developing a new therapy for PTSD (clinical study)
	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
	SASAKI Tetsuya	・Functional cortical area formation and development ・Primate-specific neural circuit formation and the involvement in pathophysiology of psychiatric disorders

	SAMBAI Ami	・Processing of reading, writing and language and its development ・Study of cognitive mechanisms of developmental dyslexia and developmental language disorders ・Clinical study of developmental dyslexia and developmental language disorders
	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
	TAKEI Yosuke	・Analysis of molecular pathology of schizophrenia and autism spectrum disorder ・Analysis of mechanism of intracellular transport in neurons
	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
	PASQUALOTTO Achille	・Multisensory/visual/auditory/haptic cognition in humans ・Memory modulation via non-invasive brain stimulation in humans ・Human spatial cognition
	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
	HONJOH Sakiko	・Synaptic plasticity and sleep ・Neural circuits underlying NREM sleep specific brain activity
	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
	YAMADA Hiroshi	・Neural mechanisms for economic decision makings ・How neural circuitry employees computations ・How the motivation and willingness to act are emerged in the brain
	YAMANAKA Katsuo	・Psychosocial approaches for dementia care ・Psychological assessments for dementia care ・Social attitudes to persons living with dementia
	LAZARUS Michael	・Understanding the link between sleepiness and motivation by exploring mesolimbic glia-neuron interactions ・Sleep circuits as potential therapeutic targets for insomnia ・Adenosine A2A receptor function in schizophrenia ・Neuro-immune communication in sleep disorders: mechanisms, diagnostic and therapeutic relevance

[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
	KATAHIRA Kentaro (AIST)	・Computational modeling of behavioral data ・Experimental and computational research on human behavior selection ・Development of statistical methods for analyzing individual differences
	TAKEDA Yuji (AIST)	・Research on characteristics of human visual attention and memory ・Development of psychophysiological indices of cognitive states
	YAMAMOTO Shinya (AIST)	・Multisensory integration and segregation ・Temporal and spatial representation ・Neural representation of the body and tools ・Effects of local brain temperature on the neural information processing

(AIST) National Institute of Advanced Industrial Science and Technology

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