

Degree Programs in Comprehensive Human Sciences

<Doctoral Program in Neuroscience>

Field of Research	Faculty	Detailed Description of Research Field
Neuroscience	ABE Takashi	<ul style="list-style-type: none"> • Neurobehavioral consequences of sleep loss • Understanding the psychological functions of sleep • Developing novel methods for measuring sleep and alertness
	AYABE Saho	<ul style="list-style-type: none"> • Human olfactory perception/cognition and odor hedonics • Haptic space perception/cognition and perceptual learning • Perception/cognition of facial expressions
	ARAI Tetsuaki	<ul style="list-style-type: none"> • Early diagnosis of dementia using biomarkers • Clinical study of dementia prevention • Clinicopathological, biochemical and neuroimaging study of dementia • Clinical study of presenile dementia
	OISHI Yo	<ul style="list-style-type: none"> • Short-sleeper mice to elucidate sleep function and mechanisms • Generation of sleepwalking-like state to elucidate the neural mechanisms
	OTA Miho	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • The effect of respiration on cognitive function • The neural mechanisms for social behavior in primates • Role of the cerebellum in higher motor control
	KOGANEZAWA Tadachika	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Functional significance of sleep in memory • Elucidation and application of neuronal plasticity • Developing a new therapy for PTSD (clinical study)
	SAKURAI Takeshi	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Functional cortical area formation and development • Primate-specific neural circuit formation and the involvement in pathophysiology of psychiatric disorders

SAMBAI Ami	<ul style="list-style-type: none"> • 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
TAKAHASHI Aki	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Analysis of molecular pathology of schizophrenia and autism spectrum disorder • Analysis of mechanism of intracellular transport in neurons
NAKATA Mariko	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Multisensory/visual/auditory/haptic cognition in humans • Memory modulation via non-invasive brain stimulation in humans • Human spatial cognition
HIRANO Arisa	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Synaptic plasticity and sleep • Neural circuits underlying NREM sleep specific brain activity
MATSUMOTO Masayuki	<ul style="list-style-type: none"> • 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 Kazuo	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Psychosocial approaches for dementia care • Psychological assessments for dementia care • Social attitudes to persons living with dementia
LAZARUS Michael	<ul style="list-style-type: none"> • 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

Field of Research	Faculty	Detailed Description of Research Field
Neuroscience (Cooperative Graduate School)	IWAKI Sunao (AIST)	<ul style="list-style-type: none"> ▪ 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)	<ul style="list-style-type: none"> ▪ Computational modeling of behavioral data ▪ Experimental and computational research on human behavior selection ▪ Development of statistical methods for analyzing individual differences
	TAKEDA Yuji (AIST)	<ul style="list-style-type: none"> ▪ Research on characteristics of human visual attention and memory ▪ Development of psychophysiological indices of cognitive states
	YAMAMOTO Shinya (AIST)	<ul style="list-style-type: none"> ▪ 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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