

Degree Programs in Comprehensive Human Sciences

<Doctoral Program in Neuroscience>

| Field of Research | Faculty | Detailed Description of Research Field |
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| Neuroscience | ABE Takashi | <ul style="list-style-type: none"> •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 | <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 •Molecular mechanisms shaping the characteristics of sleep •Analyzing sleep mechanisms through pharmacological approaches |
| | 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 |

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| | 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 developmental language disorders • Clinical study of developmental dyslexia and developmental language disorders |
| | 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 mouse |
| | 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 (mice) • Neural basis of group behavior (mice) |
| | 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 |
| | 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 employs 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 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]

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| 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 |

(AIST) National Institute of Advanced Industrial Science and Technology

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