

The First Symposium for the Alliance for Brain Science [UTokyo WPI-IRCIN : Teikyo U ACRO : RIKEN CBS]

How can brain scientists help athletes perform well?

A Venture into the Universe of the Athlete's Brain from a Cognitive Neuroscience Perspective

Program Moderator: KIMURA Mayumi (Administrative Director, UTokyo WPI-IRCIN)

PART 1 Language: English (simultaneous interpretation available)

Opening remarks on the establishment of the Alliance for Brain Science

13:00 SAITO Nobuhito (Executive Vice President, UTokyo)

13:05 OKINAGA Hiroko (Executive Vice President, Teikyo U)

13:10 MIYAZONO Kohei (Executive Director, RIKEN)

13:15 **Signing of the Alliance for Brain Science MOU**

ASASHIMA Makoto (Director, Teikyo U ACRO)

KAGEYAMA Ryoichiro (Director, RIKEN CBS)

HENSCH Takao (Director, UTokyo WPI-IRCIN)

Research Presentations Chairs: OHKI Kenichi and GOTOH Yukiko (Deputy Directors, UTokyo WPI-IRCIN)

13:30 **Lecture 1** OKANOYA Kazuo (Professor, Teikyo U ACRO)

14:10 **Lecture 2** SHIBATA Kazuhisa (Team leader, RIKEN CBS)

14:50 **Lecture 3** WATANABE Takamitsu (PI & Associate Professor, UTokyo WPI-IRCIN)

15:30 Coffee Break

PART 2 Language: Japanese (simultaneous interpretation available)

Special Dialogue and Lecture Chair: IINO Masamitsu (Special Advisor to Director, UTokyo WPI-IRCIN)

15:50 **Special Dialogue** OHE Kaori (Professional golfer) and NAKAJIMA Kazuya (Professional golfer)

16:30 **Break**

16:35 **Special Lecture** IWADE Masayuki (Director of the Sports Bureau & Former Head Coach of Rugby FC, Teikyo U)

17:15 **Closing remarks** AIHARA Kazuyuki (Executive Director, UTokyo WPI-IRCIN)

ACCESS

Venue:
Fukutake Hall, UTokyo Hongo Campus
7-3-1 Hongo Bunkyo-ku, Tokyo 113-0033 JAPAN

Access from nearest stations

- 8 min. walk from Hongo Sanchoe Sta., Marunouchi Line
- 7min. walk from Hongo Sanchoe Sta., Oedo Line
- 20 min. walk from Yushima Sta., Chiyoda Line
- 16 min. walk from Nezu Sta., Chiyoda Line
- 10 min. walk from Todaimae Sta., Namboku Line

For Inquiries

science-event@ircn.jp

For registration



For Details

<https://ircn.jp/en/events/alliance-for-brain-science2024>



Joint Hosts: UTokyo International Research Center for Neurointelligence (WPI-IRCIN)
Teikyo U Advanced Comprehensive Research Organization (ACRO)
RIKEN Center for Brain Science (RIKEN CBS)
Supported by: Japan Golf Association

ALLIANCE FOR BRAIN SCIENCE

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October 29 (Tuesday), 2024
13:00-17:20
UTokyo Fukutake Hall (On-site Only)

Pre-registration required Capacity: 150 persons

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PART 1
13:00 – 15:30

Scientists from the three research institutes, each with its own specialized approach to the mysteries of the brain, will explore how the brain works and how yips can develop.



OKANOYA Kazuo



Motor control and auditory feedback in birdsong

OKANOYA Kazuo Professor, Division of Complex System and Cognitive Sciences, Teikyo U ACRO
Birds learn courtship songs from their parents. Auditory feedback is always required for Bengalese finches to sing accurately. In this respect, the learning and maintenance of song by Bengalese finches resembles the control processes required in human sports. The role of auditory feedback and its electrophysiological and histochemical analysis will be described and discussed in relation to the sequential motor control.

After graduating from Keio University, Dr. Okanoya earned a PhD in Biopsychology from the Graduate School of Psychology, University of Maryland, USA. He subsequently became an associate professor at Chiba University in 1994, a team leader at RIKEN in 2004, and a professor at the University of Tokyo in 2011. Since 2022, he has been a professor at ACRO, Teikyo University. He enjoys the music of the Renaissance and Baroque periods.



SHIBATA Kazuhisa



Brain mechanisms for stabilization and development of acquired skills

SHIBATA Kazuhisa Team leader, Lab for Human Cognition and Learning, RIKEN CBS
Learning evolves beyond the period of training on a skill. Even after training, acquired skills undergo various states including stabilization, enhancement, and reactivation in the brain. These state transitions support further developments of the acquired skills. In this talk, taking visual and motor learning as examples, I will introduce our research on the brain mechanisms underlying the stabilization and enhancement of acquired skills.

Dr. Shibata obtained a PhD in Science from Nara Institute of Science and Technology in 2008. He subsequently worked at the Advanced Telecommunications Research Institute International (ATR), Boston University, and Brown University as a postdoctoral researcher; Nagoya University as an associate professor; and the National Institute for Quantum Science and Technology as a principal researcher. He currently leads the Lab for Human Cognition and Learning at RIKEN Center for Brain Science as a team leader.



WATANABE Takamitsu



Neuroscientific strategy to overcome yips

WATANABE Takamitsu Principal Investigator & Associate Professor, UTokyo WPI-IRCN
The yips are seemingly sudden loss of capability to conduct a specific—usually easy—movement. The symptoms of the yips are mainly observed in experienced athletes and often severely damage their lives as athletes. Here, I would like to present how we can tackle this serious problem from the perspective of cognitive neuroscience. In particular, I will talk about how our collective brain dynamics affect our intelligence and atypical brain dynamics can change our way of thinking. In addition, based on recent findings, I will propose a neurobiological strategy to investigate and control the yips.

After graduating with an MD from the University of Tokyo and a PhD from the Graduate School of Medicine in the same university, Dr. Watanabe researched brain mechanisms underpinning typical and atypical human intelligence at University College London and RIKEN CBS. In 2020, he launched his own laboratory at the WPI-IRCN at the University of Tokyo as an associate professor, and is currently tackling a wide range of problems in cognitive neuroscience and psychiatry.

The UTokyo International Research Center for Neurointelligence (WPI-IRCN), Teikyo University Advanced Comprehensive Research Organization (ACRO), and RIKEN Center for Brain Science (RIKEN CBS) have recently joined forces to establish the "Alliance for Brain Science" to promote a comprehensive collaborative scheme between these three leading institutes.

As the first flagship project, the "Athlete Cognitive Neuroscience Program" will be launched in 2024. This program aims to cultivate a new field of research by exploring the relationship between consciousness and performance in skilled athletes from the perspective of cognitive neuroscience and, in particular, deepening our biological understanding of the yips, which often damages elite athletes' careers. Moreover, future findings will be applied to develop new ways of supporting para-athletes and senior athletes, as well as to advance novel rehabilitation methods and unique AI development. The program is expected to encompass various future projects involving the comprehensive collaboration between the University of Tokyo, Teikyo University, and RIKEN.

PART 2
15:50 – 17:20

Dialogue will be held with professional golfers who have experienced yips, while a master rugby coach who has led his team to 9 consecutive National University Rugby Championship victories will give a special lecture.

Special Dialogue

How we have struggled over yips: cases of professional golfers



OHE Kaori



NAKAJIMA Kazuya

OHE Kaori Professional golfer

Ms. Ohe, born in Yamagata in 1990, won the Tohoku Amateur and Tohoku Junior Championships as an amateur, and was subsequently selected to represent Japan in the Women's Amateur Championship. Suffering from the yips beginning at the age of 18, Ms. Ohe started using a long putter. She turned professional in 2009, was seeded for the first time in 2011, and won her first Tour title in 2012. After 2013, when anchoring was set to be banned, she overcame and developed a new putting style. She won her second Tour title in 2016 and her third in 2018 before retiring from the Tour in 2019. She currently works as a golf tournament commentator and instructor.

NAKAJIMA Kazuya Professional golfer

Born in 1963 in Kiryu City, Gunma Prefecture, Mr. Nakajima began playing golf at the age of two, and went on to represent Japan as both a junior and amateur. In the autumn of 1987, Mr. Nakajima achieved first place in the PGA of Japan Qualification Pro Test for Tournament Players. He made his professional debut in 1988, winning the Daiichi Real Estate Tournament. From 2006 to 2019, he served as Tour Director for the Japan Golf Tour Organization's tournaments. Since 2020, he has been managing his own golf courses.

Special Lecture

Approach to the diversifying student consciousness



IWADE Masayuki

IWADE Masayuki

Director of the Sports Bureau, Deputy Director & Professor of Institute of Sports Science and Medicine
Former Head Coach of the Rugby FC, Teikyo U

I introduced a new management approach in university sports to replace strict hierarchies, focusing on autonomy, personal growth, and psychological safety. This lecture will explore how educators can adapt to students' diverse needs.

After graduating from Wakayama Prefectural Shingu High School in 1976 and Nippon Sport Science University in 1980, Prof. Iwade served as a public-school teacher in Shiga Prefecture from 1980 to 1996 and contributed to Teikyo U Rugby Football Club as Head coach from 1996 to 2022. From 1996 to the present, Mr. Iwade has devoted himself to Teikyo University, acting as the Director & Professor of the Sports Bureau, and Deputy Director of the Institute of Sports Science and Medicine.



The Yips

"The yips" is a movement disorder in which a person who has previously mastered a particular skill becomes unable to perform the movement, such as golf putting, baseball pitching, or rugby placekicking. The yips can be regarded as a manifestation of a conflict between awareness and body movement, and most commonly develops in long-term trained athletes. Understanding the biological mechanisms behind the yips will open up the possibility of overcoming them, and bring us closer to unraveling the fundamental mystery of how our minds and bodies interact with each other.