2024 Taiwan-Japan Neuroscience Young Researcher Exchange Workshop

- NEURO2024 Satellite Program

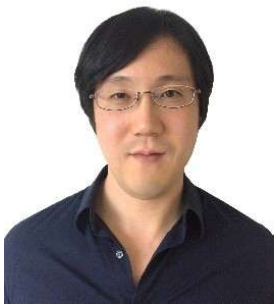
July 23rd, 2024 13:00 – 17:00 (JST)

Fukuoka International Congress Center, Room 402+403

CONTENTS

PROGRAM

13:00-13:30	Reception/ Get-together
13:30-13:35	**Opening** from **Chi-Jung Hung**
13:35-14:15	**Session 1**
13:35-13:45	**Tomohisa Hosokawa** / Associate prof. from Kyoto University
13:45-13:55	**Yi-Chun Yen** / Assistant prof. from Tunghai University
13:55-14:05	**Shuhei Ueda** / Assistant prof. from Nagoya University
14:05-14:15	**Wen-Kai You** / Assistant prof. from National Defense Medical Center
14:15-14:25	Break
14:25-15:05	**Session 2**
14:25-14:35	**Takaaki Ozawa** / Assistant prof. from Osaka University
14:35-14:45	**Chi-Jung Hung** / PostDoc from Nagoya University
14:45-14:55	**Ke-Hsin Chen** / Assistant prof. from National Defense Medical Center
14:55-15:05	**Chih-Yang Chen** / Assistant prof. from Kyoto University
15:05-15:15	Break
15:15-15:55	**Session 3**
15:15-15:25	**Ryota Shinohara** / Associate prof. from Kobe University
15:25-15:35	**Yuki Wakayama** / Assistant prof. from Hamamatsu University School of Medicine
15:35-15:45	**Chia-Yuan Chang** / PostDoc from Columbia University
15:45-16:50	**Session 4**
15:45-15:50	Workshop Photo
15:50-16:50	Free Discussion
	with beverages and light food
16:50-16:55	**Closing** from **Tomohisa Hosokawa**



Kyoto University
Graduate School of Medicine

Tomohisa HOSOKAWA (細川智永)

Associate professor

Hosokawa.tomohisa.5s@kyoto-u.ac.jp

Research interest

Molecular Neuroscience

Current research project

Protein dynamics during memory formation

Techniques

2-photon imaging, AI-based analysis, Biochemistry, Dissociated neuronal culture, Phase separation, Protein purification, Slice culture

The techniques or any other aspects desired for future collaboration

In vivo techniques

Tunghai University
Department of Life Science

Yi-Chun YEN (顏怡君)

Assistant professor

yichunyen@gmail.com

Research interest

The underlying neural mechanisms of psychiatric disorders, aging and neurodegenerative diseases in mice

Current research project

1) The roles of antiaging proteins in sleep deprivation process

2) The effects of antibiotics/probiotics on brain functions

3) The effects of edible mushroom on cognition and emotion

Techniques

Behavioral testing, Gene sequencing, Immuoblotting, Immunofluorescence staining, Lesion, Pharmacology

The techniques or any other aspects desired for future collaboration

Vagus nerve stimulation, fMRI

Nagoya University
Research Institute of Environmental Medicine (RIEM)

Shuhei UEDA (上田修平)

Assistant professor

s.ueda@riem.nagoya-u.ac.jp

Research interest

Molecular/cellular/circuit mechanisms underlying the pathophysiology of stress-related psychiatric disorders

Current research project

Elucidation of molecular and cellular mechanisms of amygdala emotional circuits

Techniques

In vivo Ca2+ imaging, *In vivo* microdialysis, Mouse behavioral analysis, Mouse stereotaxic surgery (virus injection, probe implantation), Transcriptome analysis

The techniques or any other aspects desired for future collaboration

In vivo electrophysiology, Novel cellular manipulation and visualization techniques using viruses or other approaches, Computational analysis of neural activity and behavior

National Defense Medical Center
Brain Research Center

Wen-Kai YOU (游文愷)

Assistant professor

wkyou@mail.ndmctsgh.edu.tw, wenkai.you@gmail.com

Research interest

Taking advantages of two distinct animal models (mice and monkeys), we are interested in studying the neural mechanisms underlying higher cognitive functions, especially those of attention and (economic) decision making.

Current research project

1) Investigating the role of a frontal area (Cg/M2), where we hypothesize to be the equivalent of primate FEF (frontal eye field), in attention control in mice.

Specifically, we are examining: **(a)** the pattern of connectivity between Cg/M2↔V1 and Cg/M2↔SC (superior colliculus) using viral tracing techniques; **(b)** the differences in the visual information that is transmitted from Cg/M2→V1 and from Cg/M2→SC using in vivo electrophysiological recording; and **(c)** whether inactivating Cg/M2 would impair the attentional behaviors in mice.

2) Investigating the therapeutic efficacy of rTMS in alcohol use disorder and its potential mechanisms using PET/MR in non-human primate

3) Studying the comparative neuroanatomy of Formosan rock macaque and other non-human primates using MRI. (cf. Ke-Hsin Chen)

Techniques

for mice, we have:

1) Chemogenetics / Optogenetics
2) *In vivo* electrophysiological recording (extracellular)
3) Mice behavior training system (using a touchscreen interface)
4) MRI/CT (PET)

for monkeys, we have:

1) Eye-tracking & Behavioral training system (psychophysical tasks)
2) MRI/CT (PET)
3) Transcranial magnetic stimulation (TMS)
4) *In vivo* electrophysiological recording (extracellular)

- (1)(2)(3) can also be used in humans

The techniques or any other aspects desired for future collaboration

We would appreciate if anyone could share their experience on:

1) using viral techniques in monkeys - for neuronal labeling, histology, chemo- or opto-genetic manipulations etc
2) how to precisely target the brain area of interest upon using non-invasive techniques (e.g., TMS or focused ultrasound)
3) cognitive modeling in analyzing behavior (psychophysical) data

Besides, we are open to any other possible collaborations.

Osaka University
Institute for Protein Research

Takaaki OZAWA (小澤貴明)

Assistant professor

takaaki.ozawaprotein.osaka-u.ac.jp

Research interest

Neural mechanisms of emotion, Learning and memory, Decision making

Current research project

Elucidation of molecular and cellular mechanisms of amygdala emotional circuits

Techniques

Behavioral analysis, Imaging (cellular calcium, neurotransmitter), Optogenetics

The techniques or any other aspects desired for future collaboration

Genomics, fMRI

Nagoya University
Research Institute of Environmental Medicine (RIEM)

Chi-Jung HUNG (洪啟榮)

Postdoctoral Researcher

sethhtes33@gmail.com

Research interest

Sleep and circadian rhythm

Current research project

Metabolism and body temperature related brain neural circuits and molecular mechanism

Techniques

Chemogenetic, Fiberphotometry, *In vivo/vitro* calcium imaging, Optogenetic, Patch clamp, Plasmid/AAV making

The techniques or any other aspects desired for future collaboration

All sleep and circadian related research are welcome

National Defense Medical Center
Brain Research Center

Ke-Hsin CHEN (陳可欣)

Assistant professor

chenkehsin@gmail.com

Research interest

Learning and memory, Brain connectivity

Current research project

1) Build brain template and atlas of Formosan rock macaque by magnetic resonance imaging and histological sectioning (*collaboration with Prof. Adam Lin in Pittsburgh University*)

2) Radiosurgery-induced neuromodulation effect on alcohol addicted miniature pigs (*collaboration with Prof. Chun-I Yeh in National Taiwan University*)

3) Learning induced brain activation and functional connectivity changes on rats (*collaboration with Prof. Der-Yow Chen in Cheng-Kung University*)

Techniques

Cryosection with tape-transfer method, Magnetic resonance imaging for small and large animal, including task/resting state fMRI, anatomical images, diffusion tensor images

The techniques or any other aspects desired for future collaboration

1) Viral vectors for neural circuit tracing

2) Gene sequencing either for individuals to build a genome bank for Formosan rock macaques, or for cellular level to recognize brain-wide molecular architecture which help to identify brain areas

Kyoto University
ASHBi

Chih-Yang CHEN (陳志揚)

Assistant professor

Chen.chihyang.3a@gmail.com

Research interest

Non-human primate, Cognitive neuroscience, Eye movement

Current research project

Marmoset’s eye movements with various brain regions including FEF and SC

Techniques

Behavior recording, Electrophysiology, Optogenetics, Pharmacology, Virus injection

The techniques or any other aspects desired for future collaboration

All of the above

Kobe University
Graduate School of Medicine

Ryota SHINOHARA (篠原亮太)

Associate Professor

rshino@med.kobe-u.ac.jp

Research interest

Neuroscience

Current research project

Elucidating neural circuit mechanisms of stress, resilience, and antidepressant actions using mouse models

Techniques

Chemogenetics, Fiber photometry, *In vivo* electrophysiology, Optogenetics, Single-cell analysis, Whole-brain imaging with tissue clearing

The techniques or any other aspects desired for future collaboration

Multi-omics analysis, Computational analysis

Hamamatsu University School of Medicine
Department of Organ & Tissue Anatomy

Yuki WAKAYAMA (若山勇紀)

Assistant professor

ywakayama@hama-med.ac.jp

Research interest

Angiogenesis

Current research project

Angiogenesis after spinal cord injury

Techniques

Imaging

The techniques or any other aspects desired for future collaboration

Machine learning

Columbia University
Department of Psychiatry

Chia-Yuan CHANG (張家源)

Postdoctoral Researcher

peter.chiayuanchang.2020@gmail.com

Research interest

The role of adult neurogenesis in cognition

Current research project

The role reduced neurogenesis in dentate gyrus of aging mice in cholinergic signaling and memory

Techniques

In vivo electrophysiology, Multicolor fiber photometry, Optogenetic

The techniques or any other aspects desired for future collaboration

Computational modeling for biophysical neural network

PARTICIPANTS

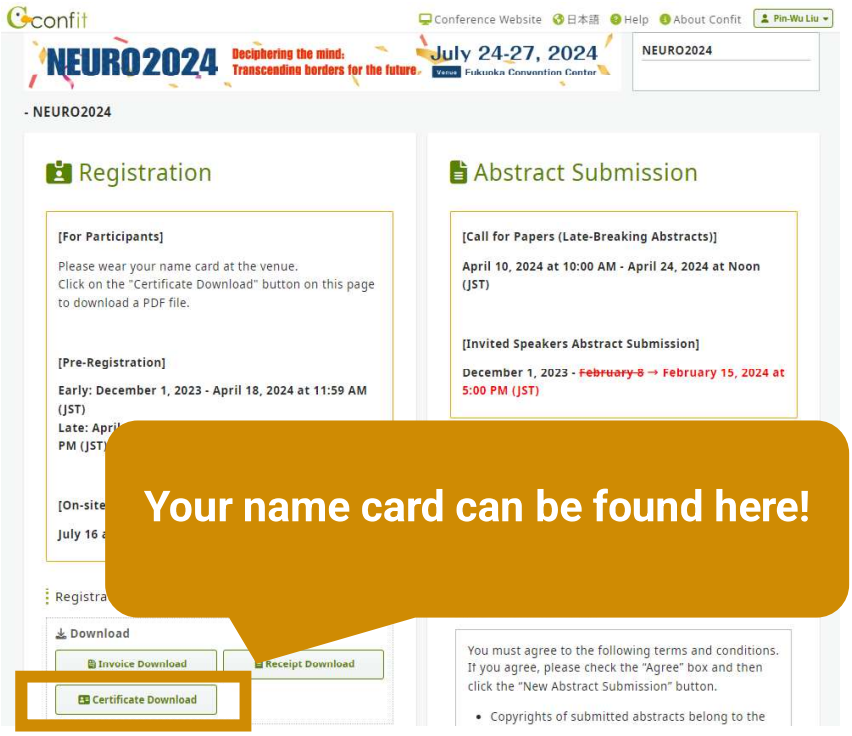
Name	Institution / Organization	Position	Research interest/topic/aspect	Main research project	Techniques	For the future collaboration	Email
a-Yuan Hu	Tunghai University (TW)	Students	Psychology and ethology	The role of Klotho in cognitive function in a sleep-deprived mouse model.	Techniques for establishing sleep-deprived mice.	Hope to get suggestions for this research.	g13230103 @thu.edu.tw
eina Shiratori 白鳥礼奈)	Tohoku University (JP)	Students	Interoception	The insular cortex modulates autonomic nervous activity, intestinal motility, heart rate, and blood glucose level	Electrophysiology	Molecular biology	shiratori.reina.p5 @dc.tohoku.ac.jp
etsuhiko Kashima 鹿島哲彦)	Tohoku university (JP)	PostDoc	Neural circuit	Mice developmental neural circuit maturation, utilizing patch-clamp recording	Patch-clamp, optogenetics	Molecular technique which enables us to manipulate specific neurons	kashimatetsuhiko @gmail.com
amamoto Mikiyasu 山本幹泰)	Nagoya University (JP)	Students	Social activity, Depression, Anhedonia	Social behavior after manipulation of the CeA, using social defeat model mice	Micro injection, *In vivo* Ca Imaging, analysis (deeplabcut, dimension reduction by python, Matlab)	Making virus vectors, Neuropixels, Aging	mikiyasu1108364 @outlook.jp
o Horikawa 堀川伊和)	Division of Pharmacology, Graduate School of Medicine, Kobe University (JP)	PostDoc	Mental illness and lipid mediators	To clarify the role of lipid mediators in mental illness, I perform behavioral experiments, lipid analysis, and flow cytometry analysis using social defeat stress models and knock out mice.	Behavioral experiments, lipidomics, flow cyotometry	None at this time.	10.horikawa @gmail.com
umiya Fukushima 福島史也)	Tohoku University (JP)	Students	Decision making	Animal model	Electrophysiology	Machine learning applications	fukushima19940227 @gmail.com
l Jiahui 李嘉慧)	Nagoya University (JP)	Students	Neuroscience	Circadian rhythm	Brain injection; fiber photometry	AI analysis	li.jiahui.j0@ s.mail.nagoya-u.ac.jp
zu-Ling Liu 劉子菱)	International Research Center for Neurointelligence, The University of Tokyo (JP)	PostDoc	Human cognition and emotion	Brain correlates of creative thinking	EEG	Clinical study on psychological disorders	tzuling.janet.liu @gmail.com

PARTICIPANTS

Name	Institution / Organization	Position	Research interest/topic/aspect	Main research project	Techniques	For the future collaboration	Email
oma Adachi 足立透真)	National Center of Neurology and Psychiatry (JP)	PostDoc	Development, Neural disorder, Epilepsy	Molecular Mechanisms Regulating Bergmann gliogenesis and Astrogliogenesis in Cerebellum	*in vivo* Electroporation, RNA-scope ISH-IHC, Mouse behavior test, Biochemistry analysis, single cell RNA-seq analysis, Xenium analysis	Zebrafish analysis	toma.adachi@ncnp.go.jp
yoka Suyama 陶山京香)	National Center of Neurology and Psychiatry (JP)	Students	Development, Neural disorder, Epilepsy	A detailed exploration of the progeny cell types produced by cerebellar Bergmann glia like progenitor	*in vivo* Electroporation, RNA-scope ISH-IHC, Mouse behavior test, Biochemistry analysis, single cell RNA-seq analysis, Xenium analysis	-	k-suyama@ncnp.go.jp
inami Mizuno 水野美波)	National Center of Neurology and Psychiatry (JP)	Students	Development, Neural disorder, Epilepsy	Exploring the function of transcription factor MEIS1in cerebellar glial cell development	*in vivo* Electroporation, RNA-scope ISH-IHC, Mouse behavior test, Biochemistry analysis, single cell RNA-seq analysis, Xenium analysis	-	minamimizuno@ncnp.go.jp
uka Suwama 諏訪間瑠夏)	National Center of Neurology and Psychiatry (JP)	Students	Development, Neural disorder	Functional analysis of AUTS2 in the regulation of neurogenesis in the adult brain	*in vivo* Electroporation, RNA-scope ISH-IHC, Mouse behavior test, Biochemistry analysis, single cell RNA-seq analysis, Xenium analysis	-	rsuwama@ncnp.go.jp
lao Tabe 田部直央)	National Center of Neurology and Psychiatry (JP)	Students	Epilepsy	Discovering the molecular mechanism of epileptogenesis	in vivo Electroporation, RNA-scope ISH-IHC, Mouse behavior test, Biochemistry analysis, single cell RNA-seq analysis, Xenium analysis	Researcher who is working about TSC	tabenao@ncnp.go.jp

GENERAL INFORMATION

- **Reception**
  The reception desk will be open from 13:00 to 16:00. Please print and bring your name card, which will be used at the JNS meeting. A badge holder will be provided once you have completed the reception process.

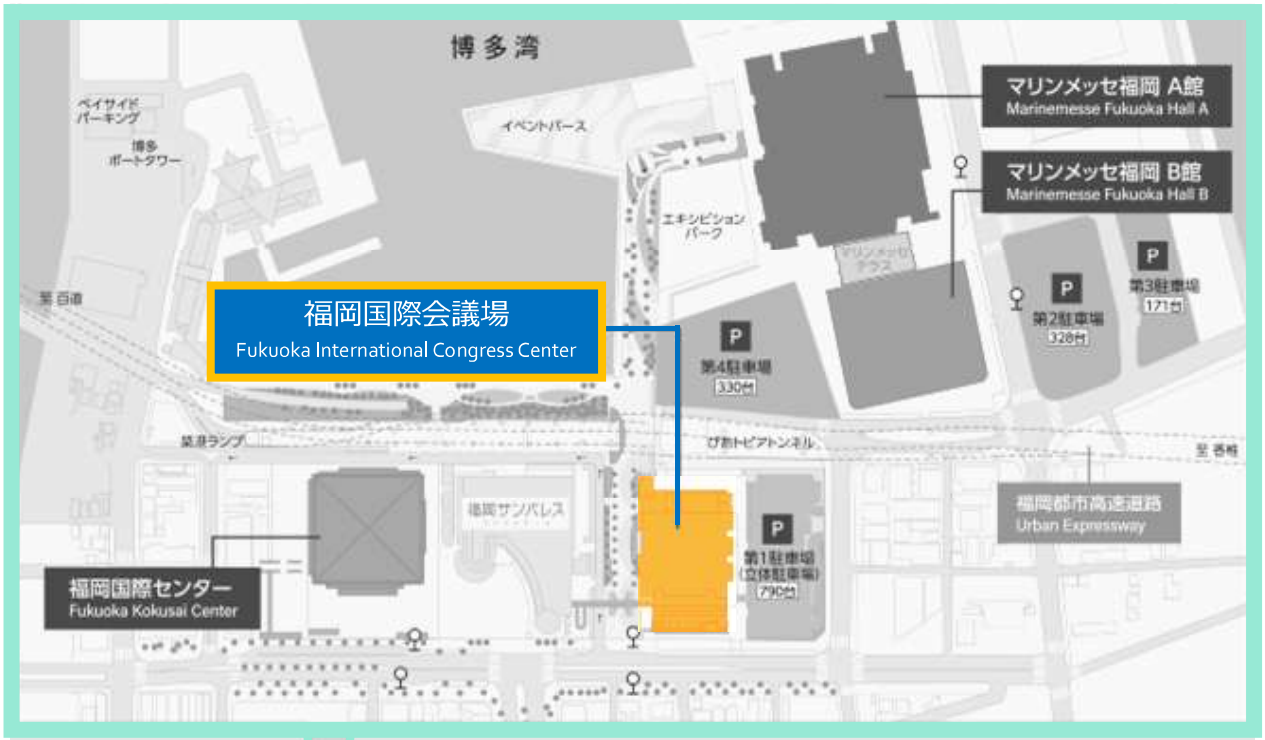


- **Speaker guidance**
  10-min talk (can be interrupted)
  - A bell will ring at 10 min. Please finish your talk within 2 minutes.
  - When it is your turn next, please wait near the presentation desk.
  - Please bring your own laptop for your presentation.
  - The meeting room projector interface uses **HDMI**. We will provide adaptor to connect **USB Type-C** and **Mini Display** to HDMI. If your computer has a special-format monitor output terminal, please bring your own HDMI conversion adapter.

- **Audience guidance**
  Please feel free to raise your hand anytime if you have a question. Don't hesitate to ask.

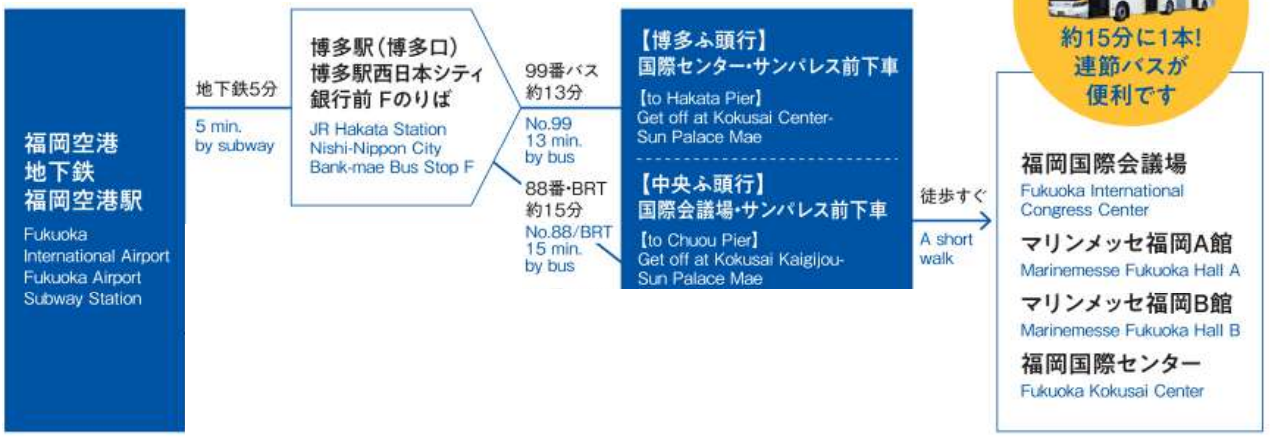
- **Prohibition**
  All presentations in this workshop are confidential. Taking photos of slides and recording presentation talks are strictly prohibited, as they may contain unpublished data.

ACCESS


博多湾
マリンメッセ福岡 A館
Marinemesse Fukuoka Hall A
マリンメッセ福岡 B館
Marinemesse Fukuoka Hall B
福岡国際会議場
Fukuoka International Congress Center
福岡国際センター
Fukuoka Kokusai Center
第1駐車場
第2駐車場
第3駐車場
第4駐車場
福岡都市高速道路
Urban Expressway


博多港
至 福岡インター
箱崎宮前
馬出九大病院前
吉塚
千代県庁口
千鳥橋JCT
呉服町
天神北
ホテルオークラ
地下鉄天神
Tenjin Station
中洲川端
西鉄グランドホテル
天神
赤坂
西鉄福岡(天神)駅
Fukuoka (Tenjin) Station
天神南
祇園
櫛田神社前
ホテル日航福岡
博多駅
Hakata Station
グランドハイアット
ANAクラウンプラザホテル
ホテルニューオータニ
渡辺通
薬院
薬院大通
東比恵
ハイアットリージェンシー
福岡空港
Fukuoka Airport
福岡空港国際線
Fukuoka International Airport
豊JCT
至 太宰府インター
平尾
鹿児島本線
篠栗線

地下鉄・バス By Bus or Subway



FLOOR MAP


401
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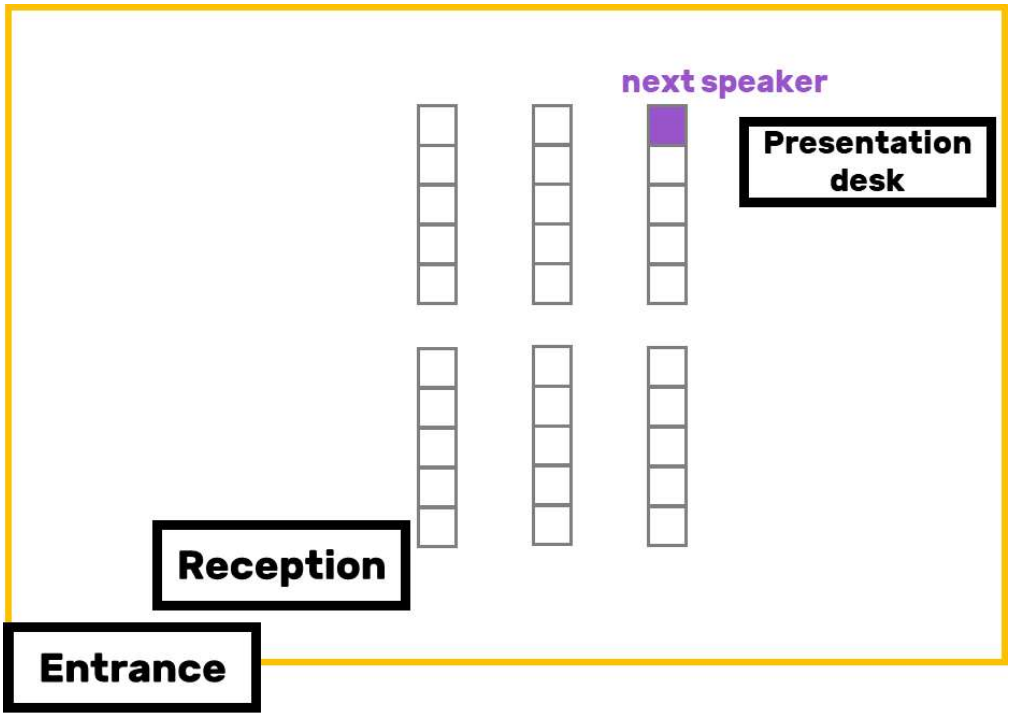
AED
ロビー
Lobby
デッキ
Deck


next speaker
Presentation desk
Reception
Entrance

MESSAGE FROM THE ORGANIZERS

Thank you for attending this workshop!

Your insights and contributions enriched our discussions and collaborative opportunities.

We are grateful to ***NEURO2024*** for selecting us as a satellite program, and to the NEURO2024 secretariat for assisting with the arrangements for this meeting room. We also appreciate the ***Japan Neuroscience Society*** for accepting and promoting this event as JNS news. Special thanks go to our sponsor, ***the Public Promoting Association Kura Foundation***. Without their support, we would not have been able to host this workshop in such a wonderful venue and provide refreshments.

As this was our first workshop, there are areas where we can improve. Your feedback on any aspect of the event would be invaluable to us.

Looking ahead, we plan to host a similar workshop next year, ideally around the JNS meeting period. If you are interested in speaking or have someone in mind for collaboration, please feel free to reach out.

We hope to see you again next year and wish you continued success in your research!

Organizers

Tomohisa Hosokawa, Chi-Jung Hung, Shuhei Ueda, Pin-Wu Liu