Final Announcement

9th International Forum on Blast Injury Countermeasures (IFBIC 2025)

May 7 (Wed) - 9 (Fri), 2025
Tokyo, Japan
https://www.ifbic2025.jp/

Objective and Scope

In recent years, attacks using explosive devices occur frequently, not only on battlefields and in regions of conflict, but also in urban areas in peacetime due to terrorism, resulting in a large number of blast injury victims. The US Department of Defense uses the *Taxonomy of Injuries from Explosive Devices* (as described in DoDD 6025.21E) to organize blast injuries into five groupings based on their approximate order of temporal incidence upon the body following an explosion. Primary injuries result from the blast shock wave. Secondary injuries result from penetrating fragments of material accelerated by the blast. Tertiary injuries result from accelerative loading or blunt impact to tissues. Quaternary injuries include dermal burns and toxic gas inhalation. Quinary injuries include contamination by nuclear, chemical, or biological agents. Primary injuries that are peculiar to blast shockwave exposures include mild blast-induced traumatic brain injury (bTBI), hearing loss, ocular injury, and lung injury. All body systems are vulnerable to secondary injuries due to penetrating fragments and tertiary injuries due to acceleration and blunt force trauma.

International cross-disciplinary collaboration is regarded as essential to investigate physical causes of blast injury, to characterize the vulnerability of anatomical systems and their functions to blasts, and to develop the means to prevent, mitigate, and treat blast injuries. Countermeasures may include personal protective equipment; weapons and vehicle systems engineered for safety; tactics, techniques, and procedures (TTPs) for injury prevention; and medical interventions tailored to the specific needs of blast injuries.

This International Forum on Blast Injury Countermeasures (IFBIC) started as Technical Information Exchange Forum between Japan and the United States, which brought together broad knowledge and expertise, and to share national experiences and evidence-based approaches for blast injuries. The former three Japan-US Technical Information Exchange Forum on Blast Injury (JUFBI) were held in June 2016, April 2017 and May 2018, all in Tokyo. At the end of JUFBI 2018, the organizing committee decided to change the forum name to International Forum on Blast Injury Countermeasures to reflect the expanding participation by additional nations such as Australia, Canada, Germany, South Korea and the United Kingdom. IFBIC 2024 was held in McLean, Virginia USA.

These meetings have been very productive, involving active and fruitful discussions and exchange of creative ideas on a broad spectrum of blast injuries; identifying critical issues involving experimental and computational studies of blast-induced injuries; and creating new partnerships on joint research explorations to address the many scientific and technical challenges facing the field.

Building upon these successful meetings, the next IFBIC will be held from 7 – 9 May 2025 at Keio Plaza Hotel in Tokyo, Japan.

The objectives for the 9th Forum include:

a. Assembly of an international forum focused on multi-disciplinary science and medicine necessary to increase our understanding of blast injury and its countermeasures from bench to bedside
b. Achieving a mutual understanding of international efforts in blast injury research
c. Identifying knowledge gaps and overlapping efforts requiring collaborative research
d. Increasing understanding, promoting further collaboration, and sharing of information to improve prevention, clinical diagnosis, and treatment addressing the entire spectrum of blast-related injuries

The meeting agenda includes the following broad topic areas. Innovative research beyond this topic list will also be considered:

1) **Blast exposure monitoring, epidemiology and environmental hazards**
   a) Clinical prevalence of varieties of blast injuries sorted by context, anatomy, and severity
   b) Blast energy / physics / waveforms, reflections, effects of media (e.g., air vs. water vs. solid material)
   c) Unique environments for blast (e.g., space, high altitude, subterranean, underwater)
   d) Blast sensor engineering, test and evaluation, fidelity, usability
   e) Correlation of blast sensing with clinical outcomes
   f) Use of multiple sensors to reconstruct blast phenomena
   g) Stimulus differences between operational and training environments
   h) Conditions particular to Special Operations
2) **Overview of participating nation's major efforts**
3) **Translational/Operational related blast efforts**
4) **National efforts for translating research into policy (e.g., individual countries, NATO, etc.)**
5) **Emerging combined blast effects and related injuries**
6) **Primary blast injury (due directly to shockwave effects)**
   a) Experimentally derived injury risk criteria for anatomical structures and their functions, including brain, ocular, auditory, and lung
   b) Predicted incapacitation due to blast injuries (e.g., loss of neuromuscular control, reduced sensory or cognitive function, reduced respiration)
7) **Secondary (penetrating ballistic fragments) and tertiary (acceleration and blunt force) blast injury**
   a) Experimentally derived injury risk criteria for anatomical structures and their functions
   b) Predicted incapacitation due to blast injuries (e.g., loss of musculoskeletal force)
   c) Wound ballistics
8) **Infections related to blast injuries (e.g., wounds)**
   a) Wound infection management and prolonged care
9) **Immune systems and blast injuries**

10) Long-term effects, cumulative effects, and chronic symptoms due to blast exposure
- a) Brain: aberrant protein expression and accumulation (e.g., phosphorylated Tau)
- b) Brain: chronic traumatic encephalopathy (CTE)-like symptoms
- c) Brain: correlation and comorbidity with post-traumatic stress disorder (PTSD)
- d) Effect of cumulative subclinical (i.e., not provoking diagnosis) exposures to blast phenomena for all body systems
- e) Effect of repeated clinical (i.e., provoking diagnosis) exposures to blast phenomena for all body systems

11) Diagnostic measures / biomarkers
- a) Innovations in self-reported symptom inventories
- b) Innovations in diagnostics based on observations by clinical staff
- c) Innovations in molecular markers of blast injury
- d) Innovations in biomedical imaging measures of blast injury
- e) Innovations in behavioral or functional tests for blast injury (including quantitative EEG)

12) Computational modeling and simulation of blast phenomena and blast injury
- a) Deformable finite element modeling (FEM) of stresses and strains
- b) Injury risk criteria applied to force-time histories from FEM
- c) Incapacitation risk criteria applied to injury predictions from FEM
- d) Shockwave modeling
- e) Innovations in coupling between computational fluid dynamics (CFD) and FEM
- f) Integration of computational models with blast sensors and other sensors (e.g., strain gauges or force transducers on cadavers or simulant manikins)

13) Application of artificial intelligence, machine learning

14) New technology and methods for blast injury research and medicine

15) Translating anatomical and functional scaling from animal to human

General Information

Meeting title:
The 9th International Forum on Blast Injury Countermeasures (IFBIC 2025)

Organized by:
U.S. Army, Medical Research and Development Command (USAMRDC)
U.S. Army Combat Capabilities Development Command (USA CCDC DEVCOM-ARL)
National Defense Medical College Japan (NDMC)

Important dates:	
Abstract submission deadline:	28 (Fri) February 2025 ~~14 (Fri) February 2025~~
Abstract acceptance notification:	10 March (Mon) 2025 ~~7 (Fri) March 2025~~
Preregistration deadline:	25 (Fri) April 2025 ~~2 (Wed) April 2025~~
Hotel reservation deadline (conference venue):	22 (Tue) April 2025 ~~18 (Fri) April 2025~~
IFBIC 2024:	7 (Wed) – 9 (Fri) May 2025

A closed meeting for organizing committee members will be held on Monday, 12 May 2025 [Location To Be Determined].

Venue:
Keio Plaza Hotel, **Room Fuji（富士）on the 42nd floor**
2-2-1 Nishi-Shinjuku, Shinjuku-Ku, Tokyo 160-8330, Japan
https://www.keioplaza.com/
https://www.keioplaza.com/map/index.html

Limousine bus (direct transportation) is available between the Narita International Airport and the Keio Plaza Hotel, and between the Haneda International Airport and the Keio Plaza Hotel.
Information on the bus time schedules, fares and boarding places is available at:
https://webservice.limousinebus.co.jp/web/en/
https://www.limousinebus.co.jp/guide/en/timetable/
At the websites, please select "Shinjuku" or "Shinjuku Area" to find "Keio Plaza Hotel" as your destination.

Abstract Submission

Please prepare your abstract using the template provided at the conference website and the attachment template. Abstract submissions should be emailed directly to the IFBIC 2025 secretary office. New abstract submission deadline is extended to 28 February 2025, 5:00 p.m. U.S. Eastern Standard Time.

IFBIC 2025 Organizing Secretariat: ifbic2025@ndmc.ac.jp

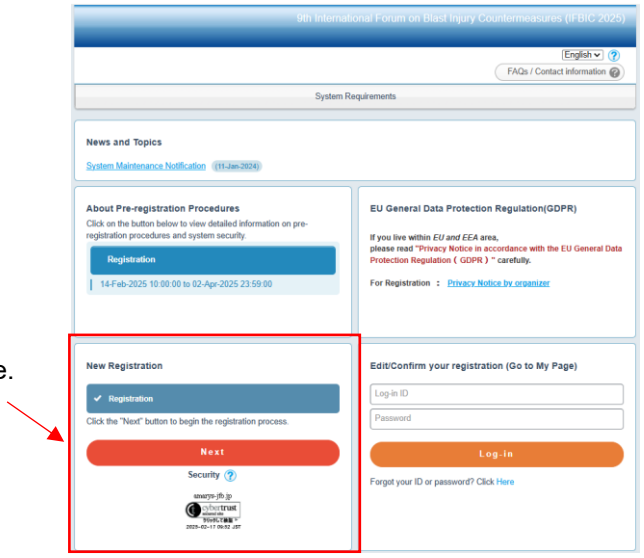
All submitted abstracts will be reviewed by the IFBIC 2025 Program Committee and notification of abstract acceptance will be made by March 7 (Fri), 2025. NOTE: Priority will be given to submitted abstracts that contain original findings that have not been reported in previous IFBIC forums. Prior research reported at IFBIC may always be included as background information in support of original findings that are new to the IFBIC venue.

Registration

Pre-registration is required for all participants, and participation will be limited by venue capacity. Please pre-register through the conference website. The pre-registration deadline is April 2 (Wed), 2025. The pre-registration page is open for registration at the conference website. “On-site” meeting registration will not be offered.

There is no registration fee. **An optional meeting expense charge of $85 USD (13,000 JPY) for Get-together&Conference dinner on 8 (Thu) May 2025 will be collected online as part of the pre-registration process**.

After entering the Registration page, please start the Pre-registration here.



Hotel Accommodations

For the participants who wish to stay at the Forum venue, the IFBIC 2025 organizing secretary office reserves a block of rooms. Please visit the conference website and book the room(s) no later than April 22 (Tue) from the website.

Keynote and Tutorial Speakers

Keynote 1

"TCCC, Blood Bank, Evacuation..., there are more to prepare for contingency"

Lt. Gen. N. Kuwada

Vice President for Military Training and Defense Medical Research of National Defense Medical College (Japan)

Keynote 2

"Nanophotonic Probes for Blast-induced Brain Injury Studies"

Dr. S. P. Karna

U.S. Army Combat Capabilities Development Command (DEVCOM), Army Research Laboratory (USA)

Keynote 3

"Probing and sensing ions, water and mechanical dynamics in astrocytes by multifunctional nanomaterials, electronic and optical devices"

Dr. V. Benfenati

Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e Fotoreattività (Italy)

Keynote 4

"Post-Blast Symptomatology and the Diagnostic Controversy of TBI vs. PTSD: How do we decide? Lessons from History"

Dr. D. P. Perl and Dr. D. Priemer

Uniformed Services University School of Medicine, Department of Pathology (USA)
Department of Defense/Uniformed Services University Brain Tissue Repository (USA)

Tutorial 1

"Blast Overpressure Tool for Range Safety"

Dr. Raj. K. Gupta

DoD Blast Injury Research Program Coordinating Office, USAMRDC (USA)

Tutorial 2

"Biomechanical Outcomes Based Pre-Clinical Injury Scaling for Lung and Brain following Blast Exposure"

Dr. V. S. Sajja

Blast Induced Neurotrauma Branch, Center for Military Psychiatry and Neurosciences, Walter Reed Army Institute of Research (USA)

Tutorial 3

"Molecular dynamics simulations of shockwave effects on biological membranes: Fundamentals and limitations"

Dr. K. Koshiyama

Graduate School of Technology, Industrial and Social Sciences, Tokushima University (Japan)

Tutorial 4

"CNS border-associated macrophages in health and disease"

Dr. T. Masuda

Division of Molecular Neuroimmunology, Medical Institute of Bioregulation, Kyushu University (Japan)

Tutorial 5

"Blood based protein biomarkers of primary explosive blast induced traumatic brain injury; advances, challenges and opportunities"

Dr. D. Agoston

Uniformed Services University of the Health Sciences (USA)

Tutorial 6

"Characterizing High-Velocity Angular Vestibulo-Ocular Reflex Function in Servicemembers Post Blast Exposure"

COL M. Scherer

DoD Blast Injury Research Program Coordinating Office, USAMRDC (USA)

Tutorial 7

"Preclinical study on pathogenesis and molecular targeted therapy for inner ear blast injuries"

Dr. K. Mizutari

Department of Otolaryngology, Tokyo Women's Medical University Adachi Medical Center (Japan)

Tutorial 8

"Mental Health Challenges After Blast-Induced TBI: Dimensional Approaches and the Promise of Decoded Neurofeedback"

Dr. T. Chiba

Computational Neuroscience Laboratories, Advanced Telecommunications Research Institute International (Japan)

The Department of Psychiatry, Self-Defense Forces Hanshin Hospital (Japan)

Get-Together and Conference Dinner

Please join the evening Get-together&Conference dinner on May 8 (Thu), for more conversation, socializing, and networking. As described in the "Registration" section above, the social gathering expense is 13,000 JPY and is collected online as part of the pre-registration process. **There will be no cancellation after May 1 (Thu).**

Meeting Organization Committee

General Chair:
Matthew Scherer (DHA, USAMRDC, USA)

General Co-Chair:
Satoshi Tomura (NDMC, Japan)

Program Chair:
Raj Gupta (DHA, USAMRDC, USA)

Program Co-Chair:
Satoko Kawauchi (NDMC, Japan)

Members:
James Batchelor (Univ. of Southampton, UK)
Thomas DeGraba (NICoE, USA)
Toru Fujii (NDMC, Japan)
Steffen Grobert (Bundeswehr Office for Defence Planning, Germany)
Shashi Karna (USA DEVCOM, Army Research Laboratory, USA)
Machiko Kawasaki (JGSDF Test & Evaluation Command, Japan)
Emrys Kirkman (DSTL, UK)
Nobuaki Kiriu (NDMC, Japan)
Yutaka Kodama (USA DEVCOM, Int'l l Tech Center-Pacific (ITC-PAC), USA)
Adam Lewis (DHA, USAMRDC, USA)
Izumi Nishidate (TUAT, Japan)
Thuvan Piehler (DHA, USAMRDC, USA)
Shunichi Sato (Defense Innovation Science & Technology Institute, ATLA, Japan)
Akimasa Tashiro (NDMC, Japan)
Olivia Webster (DCPH-A, USA)
Therese West (USAMRDC, USA)

Meeting Secretaries:
Raj Gupta (USAMRDC, USA)
Yutaka Kodama (USA DEVCOM, Int'l l Tech Center-Pacific (ITC-PAC), USA)
Satoko Kawauchi (NDMC, Japan)
Izumi Nishidate (TUAT, Japan)

Event Point-of-Contact (POC):

IFBIC 2025 Organizing Secretariat (*Abstract submission and General information*)
Email: ifbic2025@ndmc.ac.jp

IFBIC 2025 Secretariat (*Pre-registration, Participation of Get-Together and Conference Dinner, and Hotel accommodations*)
Email: ifbic2025@jtb.com

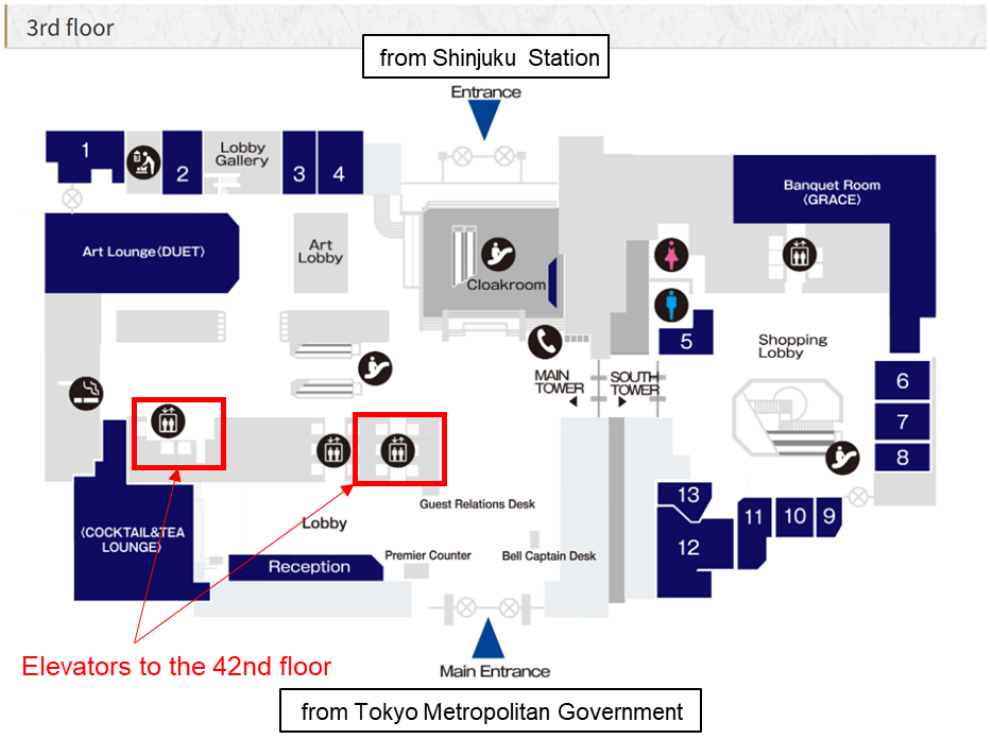
Contact/Questions:

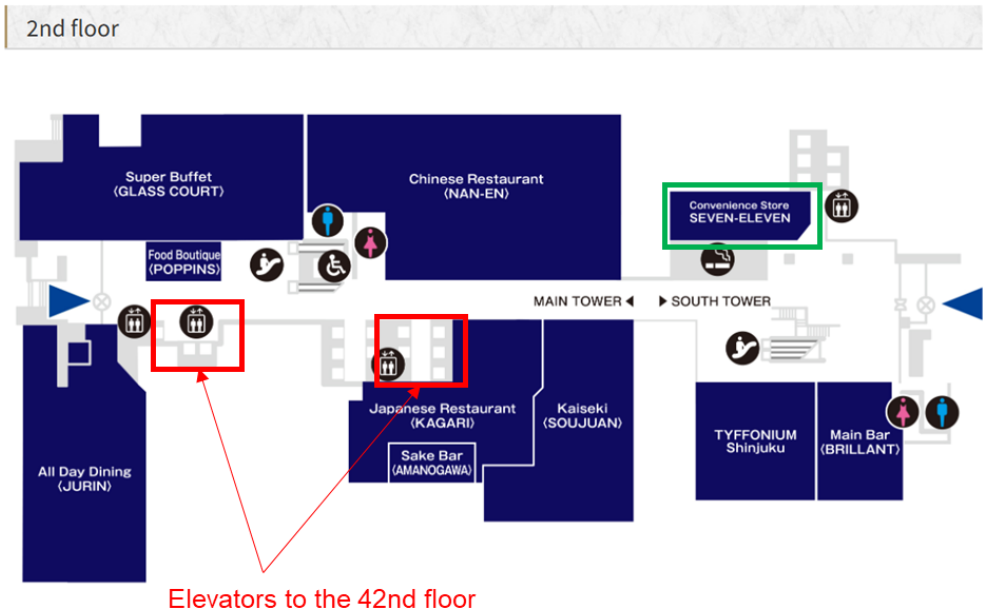
Satoko Kawauchi
Professor, Division of Bioinformation and Therapeutic Systems,
National Defense Medical College Research Instisute
3-2, Namiki, Tokorozawa-shi, Saitama 359-8513, Japan
Telephone: +81 (4) 2995-1252
Fax: +81 (4) 2991-1757
Email: satok-bits@ndmc.ac.jp

Partners and Sponsors

Access

Venue:
Keio Plaza Hotel Tokyo
Room: **42nd Floor of the Main Tower, Room Fuji**（富士）
2-2-1 Nishi-Shinjuku, Shinjuku-Ku, Tokyo 160-8330, Japan





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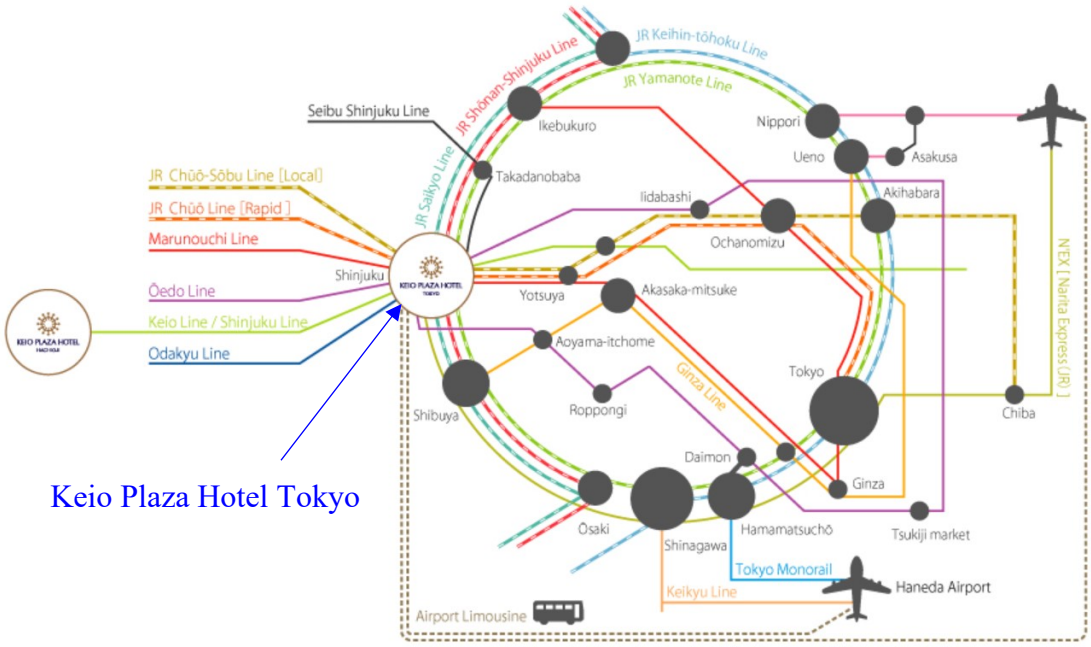
Railroad and Metro (Nearest stations):

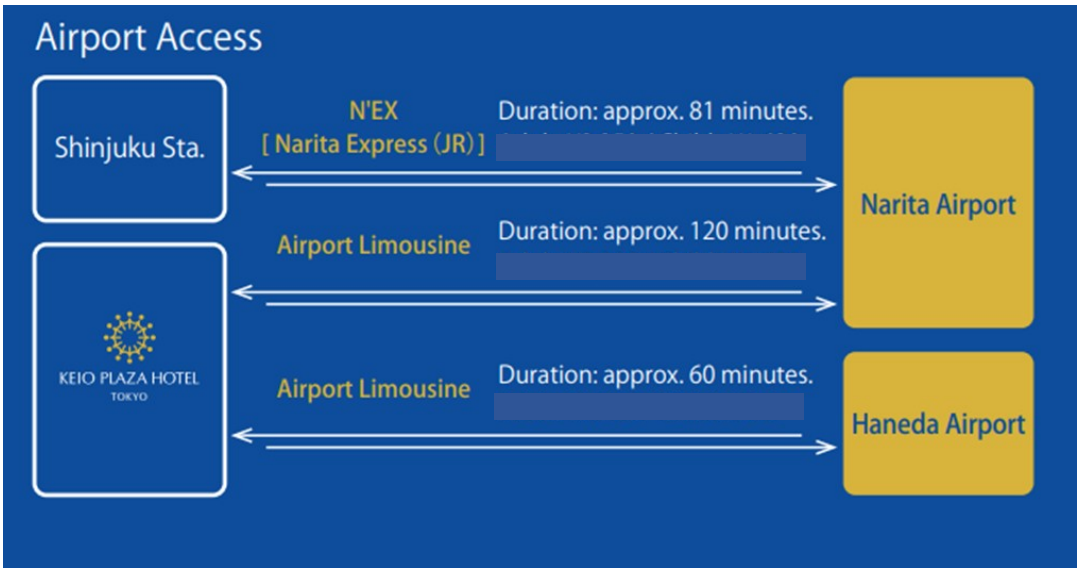
Tochomae Station (Toei Oedo Line) ・・・ **Just outside**

Shinjuku Station (West exit, JR / Tokyo Metro Subway Marunouchi Line/ Toei Shinjuku Line / Keio Line / Odakyu Line) ・・・ **about a five-minute walk**

https://www.keioplaza.com/map/index.html



Airport access:
Airport Limousine is the direct bus transportation from Haneda/Naria Airport to the Keio Plaza Hotel Tokyo, and vice versa.



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