

Call for Participation

The 9th International Symposium on Speed-up and Sustainable Technology for Railway and Maglev Systems

STECH2021

<http://web.apollon.nta.co.jp/stech2021/>

November the 23rd to the 25th, 2021

Organized and sponsored by The Japan Society of Mechanical Engineers (JSME)

Transportation and Logistics Division (TRANSLOG)

Greeting

Followed by the success of the previous STECH symposiums held in Yokohama (Japan, 1993), Birmingham (UK, 1996), Tokyo (Japan, 2003), Chengdu (China, 2006), Niigata (Japan, 2009), Seoul (Korea, 2012), Chiba (Japan, 2015), Barcelona (Spain, 2018) jointly held with Railways 2018, we have decided to hold the 9th international Symposium on Speed-up and Sustainable Technology for Railway and Maglev Systems (STECH2021).

STECH stands for technologies not only for “Speed-up” but also for “Sustainability” as key trends in railways. It aims at creating opportunities to discuss the possibility of sustainable technology for railways. Due to the world-wide pandemic of COVID-19, we decided to hold some events including technical sessions via online communication tool Zoom.

We would like you to take these valuable opportunities to enhance your knowledge and to cultivate friendship with other researchers and engineers. More detailed information will be announced on the website. We are looking forward your participation on the events.

General chair of STECH2021

Prof. Hitoshi Tsunashima (Nihon University)

Program (Tentative)

Nov. 23, Tuesday: Technical sessions (Online)

Nov. 24, Wednesday: Technical sessions (Online), Keynote lectures (Onsite & Online)

Nov. 25, Thursday: Technical sessions (Online), Keynote lectures (Onsite & Online), Closing

All presentations of technical sessions are made **online via Zoom**. Keynote lectures are to be held as joint events with the 7th Mass-Trans Innovation Japan 2021. Therefore, some of the keynote lectures are scheduled to be held onsite at Chiba Makuhari Messe and be aired by Zoom. **All delegates can access to the recorded presentations on YouTube for a certain period.**

Registration

All delegates, including those presenting papers, are expected to register for the symposium. Registration includes the symposium downloadable proceedings, full access to all keynote lectures and technical sessions on Web conference.

Symposium Registration Fee:

30,000 JPY (Speaker and early bird registration), 40,000 JPY (after October 21, 2021)

Correspondence

All inquiries and proposals concerning the symposium should be addressed to STECH2021 Secretariat: stech2021@nta.co.jp

Keynote speakers

November 24, 15:00~16:00

Speaker : Dr. Ikuo Watanabe

Country : Japan

Position, Organization : President, Railway Technical Research Institute(RTRI)

Title of lecture:

Beyond the COVID-19 pandemic: Research and development for creating the future of railways



November 24, 16:00~17:00

Speaker : Prof. Yang Zhongping

Country : China

Position, Organization : Professor of School of Electrical Engineering, Beijing Jiaotong University

Title of lecture : *China's high-speed railways: past, present, and future*



November 25, 17:00~18 : 00

Speaker : Dr. Christine Funfschilling

Country : France

Position, Organization : Research Engineer in Railway Dynamics Innovation & Recherche, SNCF

Title of lecture : *Inverse problems for the infrastructure / rolling stock monitoring*



Invited lectures

Invite-1	<i>Recent Developments in Pantograph-Catenary Interaction to Support Technology Development and De-Risk Rail Electrification Projects</i> Prof. João Pombo(University of Huddersfield)
Invite-2	<i>Safety and Reliability of Dual Train Detection Systems</i> Prof. Yung-Cheng(Rex) Lai (National Taiwan University)
Invite-3	<i>Railway Vehicle Mechatronics: An overlooked Gamechanger?</i> Prof. Christopher Ward(Loughborough University)
Invite-4	<i>The Concept of Experimental Platform on Next-Generation Shinkansen Development-Type E956 Shinkansen Test Train named ALFA-X-</i> Dr. Koji Asano(East Japan Railway Company)
Invite-5	<i>Development of the U.S. Safety Regulation for Texas High-Speed Rail</i> Mr. Tomoyuki Minami(Central Japan Railway Company)
Invite-6	<i>Value Creation using the Technical Open Innovation aiming at Reform of the Business Structure</i> Mr. Tsuyoshi Tabuchi(West Japan Railway Company)
Invite-7	<i>Development of ATS (Automatic Train Stop Device) -based Automatic Operation System using FS-ATO</i> Mr. Takahiko Aoyagi(Kyushu Railway Company)
Invite-8	<i>Introduction of our Long-term Vision, Changing the Future with Technology</i> Mr. Ryuta Nakasone(Japan Freight Railway Company)
Invite-9	<i>Condition Monitoring System of Wheel-rail Contact Forces in Tokyo Metro</i> Mr. Masuhisa Tanimoto(Tokyo Metro Co., Ltd.)
Invite-10	<i>Highspeed rail system: A new benchmark for safety and its influence on supply chains</i> Dr. Sakdirat Kaewunruen (University of Birmingham)

Room1(Nov.23,Tue.)

Session 23-R1-1 Future Vision of Railways 10:30-12:10

Chair: *To be determined*

Invite-8	Introduction of our Long-term Vision, Changing the Future with Technology Ryuta Nakasone(Japan Freight Railway Company)
e28	Requirements for achieving a paradigm shift in railway systems ○Masaki Nagamoto(Japan Transport Engineering Company)
e74	Consideration and Trial of Maintenance, Space Design and Interior with the Viewpoint of Post-pandemic ○Shihpin Lin(The University of Tokyo) Wu Wang(The University of Tokyo) Mei Chen(Southwest jiatong university) Yoshihiro Suda(The University of Tokyo)
Invite-10	Highspeed rail system: A new benchmark for safety and its influence on supply chains Sakdirat Kaewunruen (University of Birmingham)

Room1(Nov.23,Tue)

Session 23-R1-2 Vehicles and Vibration 13:30-15:10

Chair: *To be determined*

e60	Development of Diesel Power Modules with Double Vibration Isolators for Multiple-Unit Trains ○Takeshi Morita(NIPPON SHARYO, LTD.) Tomohiro Komaya(NIPPON SHARYO, LTD.) Keita Uchida(NIPPON SHARYO, LTD.) Hajime Kan(NIPPON SHARYO, LTD.) Tetsuro Sato(NIPPON SHARYO, LTD.)
e49	A new three-dimensional elastic vibration analysis model for railway vehicle carbody as a combination of elastic plates and straight and curved beams ○Shizuya Yamaguchi(Akita Prefectural University) Tomoya Sakashita(Former, Akita Prefectural University) Takahiro Tomioka(Akita Prefectural University)
e17	Vehicle condition monitoring using vibration measurement with wayside camera ○Takeo Shirotori(Railway Technical Research Institute) Ryosuke Tsutsumi(Kyushu Railway Company) Haruka Takahashi(Railway Technical Research Institute)

e16	A study on shaking test and frequency response of 1/10 model vehicle ○Masahito Kuzuta(Railway Technical Research Institute) Kohei Iida(Railway Technical Research Institute)
e2	Effects of Stoppers' Friction Forces on the Behavior of the Railway Vehicles during an Earthquake ○Kohei Iida(Railway Technical Research Institute)

Room1(Nov.23,Tue.)

Session 23-R1-3 Electrical/Electronic Systems 15:30-17:20

Chair: *To be determined*

e61	Evaluation of the Wheel Slip Speed Feedback Control Performance with the Reference Speed Acquisition ○Masahito Aihara(Waseda university) Masaki Nagataki(Waseda university) Keiichiro Kondo(Waseda university) Osamu Yamazaki(Toshiba)
e10	Construction of train detection system using LiDAR sensors ○Noriyuki Shinoda(Shinoda Technical Research Institute) Takeshi Mizuma(The University of Tokyo)
e15	A study on detection method of short-circuit between contact wires at an insulated overlap using magnetic sensors ○Yuta Masui(Railway Technical Research Institute) Takamasa Hayasaka(Railway Technical Research Institute)
e8	A Method for Optimizing Urban Rail Transit Timetable Based on Accurate Power Flow ○Haoran Geng(Southwest Jiaotong University) Qingyuan Wang(Southwest Jiaotong University) Pengfei Sun(Southwest Jiaotong University) Bo Jin(Southwest Jiaotong University) Masafumi Miyatake(Sophia University)
Invite-1	Recent Developments in Pantograph-Catenary Interaction to Support Technology Development and De-Risk Rail Electrification Projects João Pombo(University of Huddersfield)

Room2(Nov.23,Tue.)

Session 23-R2-1 Maintenance(1) 9:00-10:20

Chair: *To be determined*

e42	<p>Developing a track maintenance policy to minimize life cycle cost for sustaining better track condition</p> <p>○Mami Matsumoto(Railway Technical Research Institute)</p> <p>Masashi Miwa(Railway Technical Research Institute)</p>
e52	<p>Inspection of Broken Rail Detection system by TDR Technology</p> <p>○Atsushi Kuroiwa(East Japan Railway Company)</p> <p>Tadaaki Shinkai(East Japan Railway Company)</p> <p>Toru Murakami(East Japan Railway Company)</p> <p>Minoru Sano(KYOSAN ELECTRIC MFG CO.,LTD.)</p> <p>Takahiro Kikuno(KYOSAN ELECTRIC MFG CO.,LTD.)</p>
e45	<p>Proposal of fatigue evaluation method for railroad switch considering the uncertainty of installed environment</p> <p>○Sohei Shigemori(The University of Tokyo)</p> <p>Yujin Tomita(The University of Tokyo)</p> <p>Asuka Hatano(The University of Tokyo)</p> <p>Satoshi Izumi(The University of Tokyo)</p> <p>Kota Tomaru(East Japan Railway Company)</p> <p>Kazuhiro Sasaki(East Japan Railway Company)</p> <p>Toshiyuki Kaneda(East Japan Railway Company)</p>
e31	<p>Fault diagnosis of railway point machine based on improved time-domain multiscale dispersion entropy and FWA-SVM</p> <p>○Di Song(Beijing Jiaotong University)</p> <p>Yuan Cao(Beijing Jiaotong University)</p> <p>Xiaoxi Hu(Beijing Jiaotong University)</p> <p>Yongkui Sun(Beijing Jiaotong University)</p>

Room2(Nov.23,Tue.)

Session 23-R2-2 Operation Management 13:00-14:30

Chair: *To be determined*

Invite-7	<p>Development of ATS (Automatic Train Stop Device) -based Automatic Operation System using FS-ATO</p> <p>Takahiko Aoyagi(Kyushu Railway Company)</p>
e64	<p>Prediction of Delay at Train Stations Using 3D Convolutional Neural Network with Actual Train Operation Data</p>

	<p>○Tsukasa Takahashi(Nihon University) Takumi Fukuda(Nihon University) Sei Takahashi(Nihon University) Hideo Nakamura(The University of Tokyo)</p>
e27	<p>Investigation of relationship between volume of passengers and train delays ○Yuma Mouri(Tokyo Metro Co., Ltd.) Kazushige Yonemoto(Tokyo Metro Co., Ltd.) Norio Tomii(Nihon University)</p>
e19	<p>Measurement system for passenger congestion on a train utilizing neural network and depth camera ○Hideyuki Yoshino(Tokyo Metro Co., Ltd.) Shigeaki Adachi(Tokyo Metro Co., Ltd.)</p>

Room2(Nov.23,Tue.)

Session 23-R2-3 Urban Transportation 15:10-16:50

Chair: *To be determined*

e54	<p>Estimation of Walking Time of Platforms in Congested Metro Network Based on AFC Data ○Mengying Zhou(University of Yamanashi) Shinichi Muto(University of Yamanashi)</p>
e59	<p>Advanced Mobility System by Utilizing Autonomous Drive and Platooning Technologies ○Kunihiro Fuwa(Softbank Corp.) Keiji Aoki(West Japan Railway Company) Kenji Watanabe(Advanced Smart Mobility Corp.)</p>
e20	<p>Research on Energy-saving Operation Control of Urban Rail Transit Trains ○Meiyu Song(Beijing Jiaotong University) Chao Wang(Beijing Jiaotong University) Taimu Jin(Beijing Jiaotong University) Zhongping Yang(Beijing Jiaotong University) Fei Lin(Beijing Jiaotong University)</p>
e70	<p>Dynamic Stability and Curving Performance Improvement of Independently Rotating Wheels with Gyroscopic Damper: Theoretical and Experimental Analysis ○Ronak Prateek(The University of Tokyo) ShihPin Lin(The University of Tokyo) Yohei Michitsuji(Ibaraki University) Hiroshi Yabuno(Tsukuba University) Yoshihiro Suda(The University of Tokyo)</p>
e13	<p>Automatic 3D Reconstruction According to Metro Station Architectural Design Drawings ○Zhaoxi Ma(Xi'an University of Technology)</p>

	Qin Zhao(Xi'an University of Technology) Yiyun Zhu(Xi'an University of Technology) Yuchao Li(Xi'an University of Technology) Mingsong Yang(Xi'an University of Technology) Xinhong Hei(Xi'an University of Technology)
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Room2(Nov.23,Tue.)

Session 23-R2-4 Maglev and Linear Motor Drive Technology 17:30-18:30

Chair: *To be determined*

e44	Overview of Superconducting Maglev and Chuo Shinkansen ○Masaharu Tanimura(Central Japan Railway Company)
e25	Economic evaluation of the Japanese Maglev (Linear Chuo Shinkansen) with SCGE model ○Akina Takai(University of Yamanashi) Shinichi Muto(University of Yamanashi)
e69	A hybrid EMS system for a Hyperloop prototype vehicle ○Jose Felix Gonzalez-Rojo(Universitat Politecnica de Valencia) Federico Lluesma-Rodriguez(Universitat Politecnica de Valencia) Ivan Temoatzin Gonzalez(Zeleros Global)

Room1(Nov.24,Wed.)

Session 24-R1-1 Vehicles (1) 9:00-10:50

Chair: *To be determined*

e72	Steering Control of Railway Vehicles with Independently Rotating Wheels Using Negative Tread Conicity ○Yu Wang(The University of Tokyo) Shihpin Lin(The University of Tokyo) Yoshihiro Suda(The University of Tokyo)
e40	Development and practical use of the measures against snow accretion of Hokuriku Shinkansen Vehicle ○Soichiro Kamada(West Japan Railway Company) Makoto Toyooka(West Japan Railway Company) Takuya Yamanaka(West Japan Railway Company)
e30	Technical Features of Battery-Powered Self-Traction System for N700S Shinkansen High Speed Train ○Kenji Sato(Central Japan Railway Company) Takafumi Fukushima(Central Japan Railway Company) Hirokazu Kato(Central Japan Railway Company)
Invite-4	The Concept of Experimental Platform on Next-Generation Shinkansen Development-Type E956 Shinkansen Test Train named ALFA-X- Koji Asano(East Japan Railway Company)
e24	Energy Saving Effect of High-Efficiency 8-pole PMSM System Kazutoshi Ogawa(Hitachi, Ltd.) Naoki Kunihiro(Hitachi, Ltd.) Hidefumi Amino(Hitachi, Ltd.) ○Shuichi Tamiya(Hitachi Industrial Products, Ltd.) Takashi Maeda(Tokyo Metro Co., Ltd.) Tatsuro Takahashi(Tokyo Metro Co., Ltd.)

Room1(Nov.24,Wed.)

Session 24-R1-2 Maintenance (2) 11:10-12:10

Chair: *To be determined*

e48	Condition based maintenance and data utilization for railway equipment ○Yusuke Hashimoto(West Japan Railway Company) Atsushi Matsuda(West Japan Railway Company) Yohei Kodama(West Japan Railway Company) Yusuke Miyazaki(West Japan Railway Company)
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e46	<p>Research on AI image recognition technology for railway vehicle inspection</p> <p>○Tatsushi Suzuki(Central Japan Railway Company)</p> <p>Akinao Hibino(Central Japan Railway Company)</p> <p>Masahito Adachi(Central Japan Railway Company)</p>
e26	<p>Development of anomaly detection method using railway vehicle side images</p> <p>○Kohei Miyahara(Railway Technical Research Institute)</p> <p>Takashi Kojima(Railway Technical Research Institute)</p> <p>Akihito Kazato(Railway Technical Research Institute)</p>

Room1(Nov.24,Wed.)

Session 24-R1-3 Boundary Problems (1) 13:00-14:20

Chair: *To be determined*

e56	<p>New Evaluation Method for Steering Performance on Sharp Curve by Monitoring Device Installed on Track</p> <p>○Soma Onishi(Tokyo Metro Co., Ltd.)</p> <p>Masuhisa Tanimoto(Tokyo Metro Co., Ltd.)</p> <p>Takuya Matsuda(Tokyo Metro Co., Ltd.)</p> <p>Tomoki Fukushima(Tokyo Metro Co., Ltd.)</p> <p>Tomohisa Ogino(Tokyo Metro Co., Ltd.)</p> <p>Akira Matsumoto(Nihon University)</p> <p>Yohei Michitsuji(Ibaraki University)</p> <p>Yasuhiro Sato(National Traffic safety and Environment Laboratory)</p> <p>Yosuke Ichianagi(National Traffic safety and Environment Laboratory)</p> <p>Takanori Matsumi(Nippon Steel Corporation)</p>
e47	<p>Adhesion estimation-based heuristic approach for wheel slip control in electric locomotives</p> <p>○Shikha Saini(The University of Tokyo)</p> <p>Wataru Ohnishi(The University of Tokyo)</p> <p>Takafumi Koseki(The University of Tokyo)</p>
e4	<p>Estimation method of melting volume of contact wire of OCL at contact loss point</p> <p>○Chikara Yamashita(Railway Technical Research Institute)</p> <p>Koki Nemoto(Railway Technical Research Institute)</p> <p>Takuya Ohara(Railway Technical Research Institute)</p>
e3	<p>Development of High-Speed Test Facility for Pantograph/OCL Systems</p> <p>○Tatsuya Koyama(Railway Technical Research Institute)</p>

Room2(Nov.24,Wed.)

Session 24-R2-1 Track (1) 9:00-10:00

Chair: *To be determined*

e55	Estimation of dynamic properties of rail pads in ballastless track based on frequency response function ○Kazuhiro Kajihara(Railway Technical Research Institute) Tatsuya Tonai(Railway Technical Research Institute) Hirofumi Tanaka(Railway Technical Research Institute)
e7	Effect of rail lateral realignment on track buckling probability ○Kazuhiisa Abe(Niigata University) Yusuke Arai(Niigata University) Kazuhiro Koro(Niigata University)
e5	Development of a Support System for Determining the Flaw Rank of Rail Detection Data ○Hideyuki Takai(Japan Railway Track Consultants Co., Ltd.) Daisuke Ukita(Japan Railway Track Consultants Co., Ltd.) Shinya Sato(Japan Railway Track Consultants Co., Ltd.) Masayuki Yashiro(Japan Railway Track Consultants Co., Ltd.)

Room2(Nov.24,Wed.)

Session 24-R2-2 Safety Technology and Accident Analysis 10:40-12:10

Chair: *To be determined*

Invite-2	Safety and Reliability of Dual Train Detection Systems Yung-Cheng(Rex) Lai (National Taiwan University)
e50	Development of the anomalous bogie detection method by monitoring air spring pressure ○Shigemitsu Kita(Central Japan Railway Company) Yuki Kunimatsu(Central Japan Railway Company) Issei Kokubun(Central Japan Railway Company) Yohei Michitsuji(Ibaraki University)
e21	Derailment detector / development and international standardization ○Hayato Yonemori(Japan Transport Engineering Company)
e43	Collecting keywords regarding derailment in investigation reports of railway accidents ○Takefumi Miyamoto(Meisei University)

Room2(Nov.24,Wed.)

Session 24-R2-3 Safety Technology and Regulation 13:00-14:30

Chair: *To be determined*

Invite-5	Development of the U.S. Safety Regulation for Texas High-Speed Rail Tomoyuki Minami(Central Japan Railway Company)
e14	A study on design method for both safety and availability ○Keita Ishikawa(KYOSAN ELECTRIC MFG. CO.,LTD.) Yusuke Yamamoto(KYOSAN ELECTRIC MFG.CO.,LTD.) Yasunori Miyama(KYOSAN ELECTRIC MFG.CO.,LTD.)
e51	Development of a Fail-Safe computation architecture by using methodologies of cloud computing ○Shunsuke Yatabe(West Japan Railway Company) Jun Inoue(National Institute of Advanced Industrial Science and Technology) Hideaki Nishihara(National Institute of Advanced Industrial Science and Technology)
e39	Multi-positioning full-height slide door on platform ○Hajime Komori(West Japan Railway Company) Yuuichi Shikai(West Japan Railway Company)

Room1(Nov.25,Thu.)

Session 25-R1-1 Track(2) 9:00-10:20

Chair: *To be determined*

e37	Risk assessment of flying of rubber screens installed on railway ballast ○Takashi Nakano(Railway Technical Research Institute) Yutaka Sakuma(Railway Technical Research Institute) Tatsuya Inoue(Railway Technical Research Institute)
e63	Numerical Evaluation of the Compactness During Tamping Process of Ballasted Layer ○Akiko Kono(Railway Technical Research Institute)
e12	A study on applying supervised mechanical learning to non-destructive evaluation with impact acoustics for slab tracks ○Kohko Inaba(Railway Technical Research Institute) Takatada Takahashi(Railway Technical Research Institute) Yoshitsugu Momoya(Railway Technical Research Institute) Hideki Naito(Tohoku University)
e11	An analytic solution of mathematical expectation for bogie-track interaction problems ○Shun Yoshino(Niigata University) Kazuhisa Abe(Niigata University) Kazuhiro Koro(Niigata University)

Room1(Nov.25,Thu)

Session 25-R1-2 Vehicles (2) 10:40-12:10

Chair: *To be determined*

e33	Analysis of Rail Vehicle Bogie Using Dimensionless Parameters ○Yuta Uozaki(Sophia University) Satoshi Hara(Sophia University) Yoshiaki Terumichi(Sophia University)
e32	Mechanism and characteristics of slip misdetection in re-adhesion control of railway vehicle ○Taihei Yamaguchi(Ibaraki University) Yohei Michitsuji(Ibaraki University) Shingo Makishima(Toyo Denki Seizo K.K.) Satoru Takahashi(Toyo Denki Seizo K.K.)
e71	Influence of Wheel Tread Profile on Hunting Stability ○Yusuke Yamanaga(Railway Technical Research Institute)
Invite-3	Railway Vehicle Mechatronics: An overlooked Gamechanger? Christopher Ward(Loughborough University)

Room1(Nov.25,Thu)

Session 25-R1-3 Condition Monitoring (1) 13:00-14:50

Chair: *To be determined*

Invite-9	Condition Monitoring System of Wheel-rail Contact Forces in Tokyo Metro Masuhisa Tanimoto(Tokyo Metro Co., Ltd.)
e65	Estimation algorithm for wheelset angle of attack using a single-wheel creep-force model and Kalman filter ○Shoya Kuniyuki(Railway Technical Research Institute) Takatoshi Hondo(Railway Technical Research Institute) Mitsugi Suzuki(Railway Technical Research Institute) Takefumi Miyamoto(Meisei University) Kimihiro Nakano(The University of Tokyo)
e22	A novel method for efficient data analysis in signaling system ○Yusuke Takano(East Japan Railway Company) Mitsuaki Tsuda(East Japan Railway Company) Toshiki Gunji(East Japan Railway Company) Keisuke Ozaki(East Japan Railway Company)
e38	Development of track condition monitoring system for regional railways ○Yuya Suzuki(Nihon University) Hitoshi Tsunashima(Nihon University) Tetsuya Takata(KYOSAN ELECTRIC MFG. CO., LTD.) Seigo Ogata(National Traffic Safety and Environment Laboratory)
e36	Data-driven track irregularity estimation technique using car-body acceleration ○Hiroya Ohki(Nihon University) Hitoshi Tsunashima(Nihon University) Tetsuya Takata(KYOSAN ELECTRIC MFG. CO., LTD.) Seigo Ogata(National Traffic Safety and Environment Laboratory)

Room1(Nov.25,Thu.)

Session 25-R1-4 Condition Monitoring (2) 15:10-16:30

Chair: *To be determined*

e34	Fault detection of railway vehicle suspension using Hilbert-Huang transform ○Kentarō Sato(Nihon University) Hitoshi Tsunashima(Nihon University)
e29	Simulation-based estimation method of lubrication condition of wheel flange and investigation based on roller rig test

	<p>○Yosuke Ichianagi(National Traffic Safety and Environment Laboratory) Yohei Michitsuji(Ibaraki University) Akira Matsumoto(Nihon University) Yasuhiro Sato(National Traffic Safety and Environment Laboratory) Hiroyuki Ohno(National Traffic Safety and Environment Laboratory) Seigo Ogata(National Traffic Safety and Environment Laboratory) Masuhisa Tanimoto(Tokyo Metro Co., Ltd.) Tomoki Fukushima(Tokyo Metro Co., Ltd.) Takuya Matsuda(Tokyo Metro Co., Ltd.) Takanori Matsumi(Nippon Steel Corporation)</p>
e35	<p>On-board monitoring system for decreased deceleration detection of railway vehicle ○Zheng Wang(The University of Tokyo) Tomohito Fujita(The University of Tokyo) Katsuyuki Matsuhashi(East Japan Railway Company) Takayuki Shinohara(East Japan Railway Company) Hirotooshi Hata(East Japan Railway Company) Bo Yang(The University of Tokyo) Kimihiko Nakano(The University of Tokyo)</p>
e23	<p>Research on IGBT Performance Degradation Prediction Method with Multiple Characteristic Parameters based on Data driven ○Can Ke(Beijing Jiaotong University) Zhongping Yang(Beijing Jiaotong University) XiaoChun Fang(Beijing Jiaotong University) Fei Lin(Beijing Jiaotong University)</p>

Room2(Nov.25,Thu)

Session 25-R2-1 Customer Environment and Service 9:00-10:30

Chair: *To be determined*

Invite-6	<p>Value Creation using the Technical Open Innovation aiming at Reform of the Business Structure Tsuyoshi Tabuchi(West Japan Railway Company)</p>
e68	<p>Train congestion information service under Covid-19 ○Yasufumi Ochiai(Odakyu Electric Railway co., Ltd.)</p>
e41	<p>A proposal for a personalized trustable guidance system for urban railways considering passenger behavior attributes ○So Ueno(The University of Tokyo) Wataru Ohnishi(The University of Tokyo) Takafumi Koseki(The University of Tokyo)</p>

e62	<p>Monitoring of environmental hygiene in passenger rooms of railway vehicles using microbiome analysis</p> <p>○Sachiko Yoshie(Railway Technical Research Institute)</p> <p>Tamami Kawasaki(Railway Technical Research Institute)</p> <p>Takashi Kyotani(Railway Technical Research Institute)</p> <p>Tomoyoshi Ushioji(Railway Technical Research Institute)</p> <p>Masateru Ikehata(Railway Technical Research Institute)</p>
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Room2(Nov.25,Thu)

Session 25-R2-2 Boundary Problems (2) 10:50-12:10

Chair: *To be determined*

e67	<p>Monitoring project of wheel-rail interface in Tokyo Metro</p> <p>○Yuichi Nakasato(Tokyo Metro Co.,Ltd.)</p> <p>Akihide Tomomatsu(Tokyo Metro Co.,Ltd.)</p> <p>Tomohisa Ogino(Tokyo Metro Co.,Ltd.)</p> <p>Masuhisa Tanimoto(Tokyo Metro Co.,Ltd.)</p> <p>Shinichi Watanabe(Tokyo Metro Co.,Ltd.)</p> <p>Koji Tokunaga(Tokyo Metro Co.,Ltd.)</p>
e66	<p>Methodology for deriving wheel wear coefficient in the field</p> <p>○Satoshi Hara(Central Japan Railway Company)</p> <p>Yuki Kunimatsu(Central Japan Railway Company)</p> <p>Yoshiaki Terumichi(Sophia University)</p> <p>Katsuya Tanifuji(Sophia University)</p>
e58	<p>Development of wheel tread profile for improving curving performance and reducing contact pressure</p> <p>○Kosuke Shimura(Tokyo Metro Co., Ltd.)</p> <p>Tomoki Fukushima(Tokyo Metro Co., Ltd.)</p> <p>Masuhisa Tanimoto(Tokyo Metro Co., Ltd.)</p> <p>Tomohisa Ogino(Tokyo Metro Co., Ltd.)</p>
e57	<p>Evaluation Test of Tangential Force Coefficient by Type of Fallen Leaves</p> <p>○Hua Chen(Railway Technical Research Institute)</p> <p>Shigekatsu Kimura(East Japan Railway Company)</p> <p>Kazuki Ikoma(Railway Technical Research Institute)</p> <p>Junichi Suzumura(Railway Technical Research Institute)</p> <p>Kei Ishizaka(Railway Technical Research Institute)</p>

Room2(Nov.25,Thu)

25-R2-3 Reliability of Traffic Operation and Planning 13:30-15:10

Chair: *To be determined*

e53	Optimization of High-speed Railway Timetable Based on Time-Space Network ○Yue Yang(University of Yamanashi) Yue Yang(University of Yamanashi) Shinichi Muto(University of Yamanashi)
e18	The Effect of Seasonal Variation of Travel Demand on Optimal Intercity Travel Network ○Yusuke Fujita(Kanazawa University) Hiromichi Yamaguchi(Kanazawa University) Shoichiro Nakayama(Kanazawa University)
e73	The Resilience of Ultra-high Frequency Train Timetable: Introducing vehicles that consume high power only when trains are delayed ○Masao Watanabe(Kogakuin University) Ryo Takagi(Kogakuin University)
e9	An ontology generation method for metro code in compliance checking ○Yuchao Li(Xi'an University of technology) Qin Zhao(Xi'an University of technology) Yunhe Liu(Xi'an University of technology) Mingsong Yang(Xi'an University of Technology) Zhaoxi Ma(Xi'an University of technology) Xinhong Hei(Xi'an University of Technology)
e6	Extending the Expressive Power of Knowledge Graph for Automatic Compliance Checking ○Mingsong Yang(Xi'an University of technology) Lei Zhu(Xi'an University of technology) Qin Zhao(Xi'an University of Technology) Yuchao Li(Xi'an University of Technology) Zhaoxi Ma(Xi'an University of Technology) Rui Jiao(Xi'an University of technology) Xinhong Hei(Xi'an University of technology)