IMPS ✴ 2024

Prague, Czech Republic

July 16-19, 2024 • Short Courses July 15

PSYCHOMETRIC SOCIETY

Institute of Computer Science
Czech Academy of Sciences

VŠE / PRAGUE UNIVERSITY OF ECONOMICS AND BUSINESS

FACULTY OF EDUCATION
Charles University

Dear Attendees and Guests,

We are pleased to welcome you to IMPS 2024, the 89th Annual Meeting of the Psychometric Society, held in the magnificent city of Prague, The Czech Republic. The conference is hosted by the **Czech Academy of Sciences**, the leading non-university public research institution in the Czech Republic, in partnership with the **Charles University**, one of the world's oldest universities, the **Prague University of Economics and Business**, the largest public university in the field of economics and business in the Czech Republic, and the Psychometric Society. The conference takes place at the Prague University of Economics and Business (VŠE), located at nám. Winstona Churchilla 1938/4, 130 00 Praha 3-Žižkov, within 10-minute walk from the main train station (Hlavní nádraží) and only a 20-minute walk to Old Town.

The meeting starts with four parallel short courses on Monday, July 15. A Welcome Reception will be held on July 16th from 6:30 p.m. to 9:00 p.m. at the **Carolinum**, a national monument and the main seat of Charles University, dating back to the 14th century. On Wednesday, July 17, from 4:45 p.m. to 6:15 p.m., the Psychometric Society cordially invites all meeting attendees to delve into a wide array of psychometric research at our conference poster session event. Authors will be present by their posters to engage in insightful discussions about their research with peers in a relaxed and enjoyable setting that will be held in the Atrium of the RB building, VŠE. Immediately following the poster session, there will be a graduate student dinner mixer at the historic Pivnice Obecní dům (Pilsner Pub Municipal House), a beautiful Art Nouveau restaurant dating back to 1912. As a registered student, you are welcome to join this event for a complimentary dinner and drinks, plus have the opportunity to meet other students from around the world. On Thursday, July 18th, from 4:00 p.m. - 6:30 p.m., join us for a walking tour of Prague's Old Town, which dates back to the 9th century AD. Finally, this year, we are excited to elevate our Closing Conference Banquet Reception with a cruise up and down the Vltava River, passing through the Smíchov lock twice with spectacular views of the most beautiful Prague monuments illuminated by night – Charles Bridge, National Theatre, Rudolfinum, and Prague Castle.

This year promises to be the largest meeting of IMPS on record, with more than 560 registrants, 400 oral and symposium presentations and nearly 120 posters given by attendees from over 40 countries! We have two distinguished keynote speakers, and six invited speakers, as well as the Dissertation Award presentation, the Early Career Award presentation, and the Career Lifetime Achievement Award presentation. We are looking forward to a vibrant scientific meeting filled with rich intellectual exchange. Best wishes for a very satisfying meeting and thank you for joining us.

David Kaplan
University of Wisconsin - Madison
President & Organizing Committee Chair

Patrícia Martinková
Czech Academy of Sciences & Charles University
Chair of Local Organizing Committee

Short Course #1:

Structural Equation Models for Categorical Outcomes Using Lavaan
Monday, July 15, 2024
9:00 a.m. - 5:00 p.m.
Location: RB 209

Speaker:
Dr. Terrence D. Jorgensen

Short Course #2:

Tools of Machine Learning in Psychometrics
Monday, July 15, 2024
9:00 a.m. - 5:00 p.m.
Location: RB 210

Speakers:
Dr. Rudolf Debelak &
Dr. David Goretzko

Short Course #3:

Planning and Conducting Simulation Studies in R (Part 1)
Monday, July 15, 2024
9:30 a.m. – 12:30 p.m.
Location: RB 211

Planning and Conducting Simulation Studies in R (Part 2)
Monday, July 15, 2024
2:00 p.m. - 5:00 p.m.

Speakers (Part 1 and Part 2):
Prof. Carolin Strobl &
Dr. Mirka Henninger

Short Course #4:

Computerized adaptive testing and multistage testing with R
Monday, July 15, 2024
9:30 a.m. - 12:30 p.m.
Location: RB 212

Speakers:
Dr. Duanli Yan &
Dr. Alina A. von Davier

Prof. Adrian E. Raftery
University of Washington
Tuesday, July 16
9:15 a.m. - 10:15 a.m.
Location: Vencovského aula
(New Building)

Keynote Address:
Statistical Inference with Model Uncertainty

Prof. David Thissen
University of North Carolina at Chapel Hill
Wednesday, July 17
10:30 a.m. - 11:30 a.m.
Location: Vencovského aula (New Building)

2024 Career Award for Lifetime Achievement:
A Selective Intellectual History of Differential Item Functioning Analysis in Item Response Theory and Factorial Invariance in Factor Analysis

Prof. David P. MacKinnon
Arizona State University
Thursday, July 18
10:45 a.m. - 11:45 a.m.
Location: Vencovského aula
(New Building)

Keynote Speaker:
The Investigation of Mediating Processes as a Measurement Challenge

Prof. Gyeongcheol Cho
The Ohio State University
Tuesday, July 16
4:15 p.m. - 5:15 p.m.
Location: Vencovského aula
(New Building)

2024 Dissertation Prize:
Constructs May or May Not Be Latent: Studies on Two Domains of Structural Equation Modeling

Prof. Maarten Marsman
University of Amsterdam
Wednesday, July 17
3:45 p.m. - 4:45 p.m.
Location: Vencovského aula
(New Building)

2024 Early Career Award:
From Network Psychometrics to Bayesian Graphical Modeling

Prof. David Kaplan
University of Wisconsin – Madison
Friday, July 19
2:00 p.m. - 3:00 p.m.
Location: Vencovského aula (New Building)

Presidential Address:
Probabilistic Forecasting with International Large-Scale Assessments: Methods for Estimating the Pace of Progress to the UN Education Sustainable Development Targets

Dr. Cécile Proust-Lima
University of Bordeaux and Inserm
Tuesday, July 16
1:30 p.m. - 2:15 p.m.
Location: Vencovského aula
(New Building)

Continuous-time latent variable modeling of measurement scales in health studies: applications to the multiple-system atrophy progression

Dr. Esther Ulitzsch
University of Oslo
Tuesday, July 16
1:30 p.m. - 2:15 p.m.
Location: RB 101 Auditorium
(Rajska Building)

Confirmatory mixture models for investigating contextual correlates of response behavior in ecological momentary assessments

Dr. Patrícia Martinková
Czech Academy of Sciences and Charles University
Wednesday, July 17
2:30 p.m. - 3:15 p.m.
Location: Vencovského aula
(New Building)

Computational aspects of psychometric methods and beyond

Prof. Eiko Fried
Leiden University
Wednesday, July 17
2:30 p.m. - 3:15 p.m.
Location: RB 101 Auditorium
(Rajska Building)

Building bridges between psychometrics island and psychology mainland

Dr. Maria Bolsinova
Tilburg University
Friday, July 19
10:30 a.m. - 11:15 a.m.
Location: Vencovského aula
(New Building)

Rating systems for measurement in adaptive learning systems: challenges and solutions

Prof. Peter F. Halpin
University of North Carolina at Chapel Hill
Friday, July 19
10:30 a.m. - 11:15 a.m.
Location: RB 101 Auditorium
(Rajska Building)

Using robust scaling to address DIF and DTF in latent variable models

Group Photo
Tuesday, July 16 | 3:45 p.m. - 4:15 p.m.
Location: Atrium of RB Building (nám. Winstona Churchilla 1938/4, 130 00 Praha 3 – Žižkov)

Immediately following the concurrent sessions, please meet in the Atrium RB (Rajska Building) for instructions from the IMPS staff and photographer to coordinate the annual group photo. All attendees are welcome to participate.

The group photo will be posted on the Society website for attendees to download after the conference.

IMPS 2024 Welcome Reception
Tuesday, July 16 | 6:30 p.m. - 9:00 p.m.
Location: **Carolinum** (Ovocný trh 560/5, 110 00 Praha 1 - Staré Město)

We are thrilled to invite you to this year's welcome reception, set in the heart of Prague's Old Town at the oldest complex of Charles University buildings dating to the 14th century, the **Carolinum**.

Enjoy a delightful array of hors d'oeuvres and cocktails, served 6:30 p.m. - 9:00 p.m. located on the ground floor. Don't miss the welcome remarks at 7:30 p.m. in the courtyard. Come to listen to organ and trumpets in the Great Hall on the first floor (6:45 p.m. - 7:10 p.m. and 8:15 p.m. - 8:40 p.m.).

Poster Session
Wednesday, July 17 | 4:45 p.m. - 6:15 p.m.
Location: Atrium of RB Building (nám. Winstona Churchilla 1938/4, 130 00 Praha 3 – Žižkov)

On Wednesday, July 17, from 4:45 p.m. to 6:15 p.m., the Psychometric Society cordially invites all meeting attendees to delve into a wide array of psychometric research at our conference poster session event.

Authors will be present by their posters to engage in insightful discussions about their research with peers in a relaxed and enjoyable setting that will be held in the Atrium of the RB building, Prague University of Economics and Business, immediately following the educational sessions.

Presenters will be standing by their posters from 5:00 p.m. - 6:15 p.m. in this casual and fun setting. Light snacks and beverages will be provided.

Click here to view the IMPS 2024 list of poster titles and presenters.

Additional information for poster presenters can be found **here**.

Graduate Student Dinner Mixer
Wednesday, July 17 | 7:00 p.m. - 10:00 p.m.
Location: **Pivnice Obecní dům (Pilsner pub Municipal house)** (náměstí Republiky 1090/ 5 111 21, Praha 1 – Staré Město)

We are delighted to host our annual exclusive graduate student dinner mixer at the historic Pivnice Obecní dům (Pilsner Pub Municipal House).

Immerse yourself in the beauty of Art Nouveau decorations and the rich history of the Plzenska restaurant, which dates back to 1912. As a registered student, you are welcome to join this event for a complimentary dinner and drinks, plus have the opportunity to meet other students from around the world. (An RSVP was requested to attend.)

Student Dinner Mixer will take place immediately following the Poster Session event on Wednesday, July 17 from 7:00 p.m.- 10:00 p.m.

IMPS 2024 Walking Group Excursion
Thursday, July 18 | 4:00 p.m. - 6:45 p.m.
Location: Atrium of RB Building (nám. Winstona Churchilla 1938/4, 130 00 Praha 3 – Žižkov)

Explore Prague by a Walking City Tour through Prague's Old Town - "*Left, right – Prague's on sight!*"

Put on comfortable shoes, dress in layers, and dive deep into the charming cobbled maze of the Old Town of Prague. In the company of a seasoned English-speaking tour guide, you will discover not only the selection of the main UNESCO highlights but also peek inside the off-the-beaten-path passages and corners. Listen to stories about personalities and events shaping the City of a Hundred Spires since the 9th century AD.

Enjoy a 2 to 2.5-hour walking tour of the Old Town of Prague with an experienced English-speaking guide; headsets provided. Due to capacity reasons, the tour does not guarantee any visit to the interiors. An RSVP was required.

Plan to meet for the excursion starting in the Atrium RB near the IMPS Registration Desk at the conference site (VŠE).

IMPS 2024 Closing Banquet Reception (Boat Cruise on Vltava River)
Friday, July 19 | 6:00 p.m. - 10:00 p.m.
Location: **Dvořákovo nábřeží**
(110 00 Praha 1 - Josefov, Prague (50°05'31.5"N14°24'59.8"E))

This year, we are excited to elevate our Closing Conference Banquet Reception with a unique experience following the last day of educational sessions.

This event, a memorable three-hour boat cruise, is included in the attendee conference registration fee. These super-modern, glass-roofed boats offer undisturbed views of Prague's monuments. You can look forward to a unique and unforgettable experience, featuring a stylish buffet dinner where you can choose according to your taste.

The cruise includes passing through the Smíchov lock twice and by the most beautiful Prague monuments illuminated by night – Charles Bridge, National Theatre, Rudolfinum, and Prague Castle.

The two boats will depart from **Dvořákovo nábřeží**. Transportation to and from the boats is on your own.

Attendees should arrive at the boat landing between 5:45 p.m. - 6:00 p.m. The boats will start welcoming guests to board at 6:00 p.m.

Important: The two boats will depart at 6:25 p.m. sharp! Participants, please be sure not to be late, as there will be no late comers to join this event. If an attendee/guest misses the boat, no refunds will be granted.

Reminder: An RSVP was required, and this is a ticketed event. If an attendee/guest is on the waiting list, please check in with the IMPS Registration Desk at least 24 hours prior to this scheduled IMPS event to verify participation.
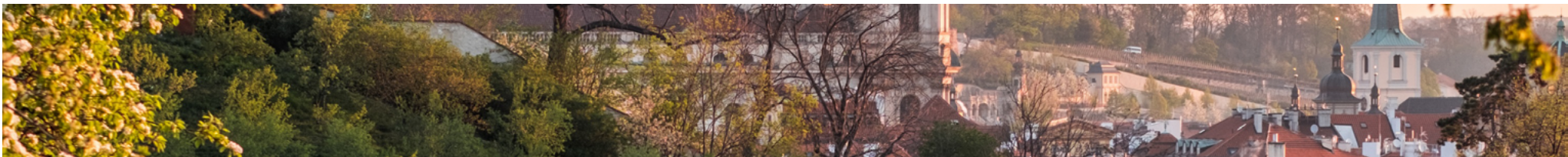
Conference Venue

This year, IMPS will be held in Prague, Czech Republic. The Educational sessions and the Poster Session will be located at the **Prague University of Economics and Business**, located at nám. Winstona Churchilla 1938/4, 130 00 Praha 3-Žižkov

For more info about VŠE, visit:
vse.cz/english/about-vse/profile/campus/

For an interactive 3D visit, visit:
vse.cz/english/about-vse/profile/campus/3d-visit/

The opening, keynotes, awards, members meeting and closing talks will take place in the *New Building: Vencovského aula*. The parallel sessions will take place in three different connected buildings refered to as: New Building (NB), Rajska Building (RB), and the Italska Building (IB).

Refer to the map on **page 12** for a particular session room, the registration area, the lunch (Menza) area, and/or the refreshment break area (Atrium). Check out an additional map of all events **here**.

Special Accommodations

If you require special accommodations and/or have special dietary needs during the meeting, please visit the IMPS Registration Desk located in the Atrium (RB building) on the 1st floor.

Photography Disclosure

Portions of this event may be videotaped and photographed by the meeting and/or the media. By attending this meeting, you accept the possibility that you might be videotaped or photographed.

IMPS Registration and Informational Desk

The IMPS Registration and Informational Desk is located in the Rajska Building (RB) at the VSE in the Atrium RB during the Annual Meeting, July 15 to July 19. A representative from The Rees Group (management company supporting the Society) is available to offer attendee assistance during the conference to answer questions, renew memberships, or assist those interested in joining the Psychometric Society. You can also join online **here**.

Hours of Operation:

Monday, July 15 | 8:00 a.m. - 5:00 p.m.
(Short Course Workshops Day; however, the desk is available to all meeting attendees.)

Tuesday, July 16 | 8:00 a.m. - 4:30 p.m.

Wednesday, July 17 | 8:00 a.m. - 5:00 p.m.

Thursday, July 18 | 8:00 a.m. - 4:00 p.m.

Friday, July 19 | 8:00 a.m. - 2:00 p.m.

Name Badge Policy

Meeting name badges are required for entrance to all conference sessions and events.

Public Transport Tickets

All attendees will be provided **(1)** public transport ticket at the time of picking up their attendee name badges. The tickets may be used from July 16 to July 19 on any bus/tram/subway - even some boats. Google Maps is a great resource to show all transportation schedules and where the trams/buses are located, as well any closures.

For additional transportation information, **click here**.

Psychometric Society Social Media

Don't forget to post this week: use **#IMPS2024** on any of the society's social media channels!

Facebook
X
LinkedIn

VŠE Building Internet (Wi-Fi Access)

Wi-Fi is available onsite complimentary for attendee use in the VSE Building. All attendees will receive a username and passcode for their use during IMPS. Eduroam is also available.

Thumb Drives containing the IMPS 2024 Abstract PDF and Meeting Materials

The Society has placed the IMPS 2024 abstract PDF and meeting materials on thumb drives for "temporary use" on site. These will be available at the IMPS Registration Desk to download to your personal computer if needed.

The Society conference page or the conference app will also host the IMPS 2024 materials.

Conference Attire

Business casual attire is suggested for the meeting but is not mandatory. Please note that the meeting takes place during the summer in Prague, Czech Republic. The weather in July is usually warm with an average temperature near 22°C (72-73°F).

This dry sunny weather makes for great sightseeing atmosphere to enjoy the amazing city! We recommend dressing appropriately to the weather, but in layers as the VŠE building is air conditioned.

Meeting Refreshment Breaks, and Attendee Lunch Breaks

Daily the IMPS meeting will provide hosted morning and afternoon refreshments (i.e., beverage service) during the session breaks. Lunch will not be provided by the Society; rather, attendees will be on their own for lunch. The VŠE Menza (Cafeteria) located in the Italska Building (IB) on the 1st and 2nd floors will be available to attendees over the lunch break and/or attendees may also venture off-site.

To view the Prague Restaurant listing and choose a map view, **click here**. Please refer to the Program Schedule for the timeline of daily refreshments, lunch break times, and hosted IMPS events.

IMPS 2024 Mobile APP

The Psychometric Society has a mobile app for IMPS 2024. Please download the "**EX ORDO**" app using Apple App Store (iOS) or Google Play Store (Android). Once you open the app, click the Ex Ordo icon to create an account or log in. Then search under the Find Guides tab. Click on the "Have a Passphrase?" button and enter "**imps2024**." Tap on the guide and then join to access the IMPS 2024 Mobile App.

Complimentary internet will be available at the Conference Venue: Prague University of Economics and Business; however, we suggest you download the app before you travel to the meeting site. Please also be aware of any additional data charges when using the mobile app. Attendees will be able to access the program, abstracts, and more on this year's app.

The Program Committee is responsible for the scientific program of International Meeting of the Psychometric Society. Its duties include inviting speakers, short-course presenters, chairs, and organizers of invited sessions; reviewing submitted abstracts and proposals for symposia; designing the program; and providing advice and feedback on the program and abstract books. According to the bylaws, the president is the chair of the Program Committee, and the members are the immediate past president, president-elect, secretary, four regular members, and any number of adjunct members. Two members of the Program Committee are appointed by the president every year to serve for two years. In addition, the president may appoint, for a term of up to one year each, any number of adjunct members.

2024 Society President & Organizing Committee Chair:
David Kaplan
University of Wisconsin–Madison
Madison, WI, United States

IMPS 2024 Local Committee
Patrícia Martinková
Local Host Committee Chair
Institute of Computer Science, Czech Academy of Sciences, Charles University, Prague, Czech Republic

Filip Habarta
Faculty of Informatics and Statistics, Prague University of Economics and Business

Adéla Hladká
Institute of Computer Science, Czech Academy of Sciences

Jaroslav Hlinka
Institute of Computer Science, Czech Academy of Sciences

Jiří Lukavský
Institute of Psychology, Czech Academy of Sciences
Charles University

Lubomír Štěpánek
Faculty of Informatics and Statistics, Prague University of Economics and Business

Tomáš Urbánek
Institute of Psychology, Czech Academy of Sciences

IMPS 2024 Program Committee:
- David Kaplan (University of Wisconsin)
- Patrícia Martinková (Czech Academy of Sciences and Charles University)
- Jorge Gonzalez (Pontificia Universidad Catolica de Chile)
- Qiwei Britt He (Georgetown University)
- Nana Kim (University of Minnesota)
- Irini Moustaki (London School of Economics)
- Steffi Pohl (Freie Universitat, Berlin)
- Alexander Robitzsch (Leibniz Institute for Science and Mathematics Education)
- Fan Wallentin (University of Uppsala)
- Gabriel Wallin (Lancaster University)
- Chun Wang (University of Washington)

THANK YOU
A very extra special thank you to our local organizing committee members **Patrícia Martinková, Filip Habarta, Adéla Hladká, Jaroslav Hlinka, Jiří Lukavský, Lubomír Štěpánek, Tomáš Urbánek**. Many thanks also go to all the local volunteers for all their hard work: Jana Cibulková, Michaela Cichrová, Jana Dlouhá, Kaitlin Griffith, Zuzana Kubešová, David Lacko, Štěpánka Mácová, Filip Martinek, Šimon Martinek, Jan Netík, Iván Leonardo Pérez Cabrera, Lubomír Seif, Benjamin Šimsa, Marie Turčičová, Michaela Vařejková, Ondřej Vít, and Jun Wu.

Thank you to the conference host site this year: the Czech Academy of Sciences, the Prague University of Economics and Business, and the Charles University for their support of IMPS 2024!

We thank you all for joining us this year at IMPS 2024, and we sincerely hope you have a wonderful visit in Prague, Czech Republic!

Psychometric Society
For more information about the Psychometric Society or membership, contact the Psychometric Society Association Management Company:
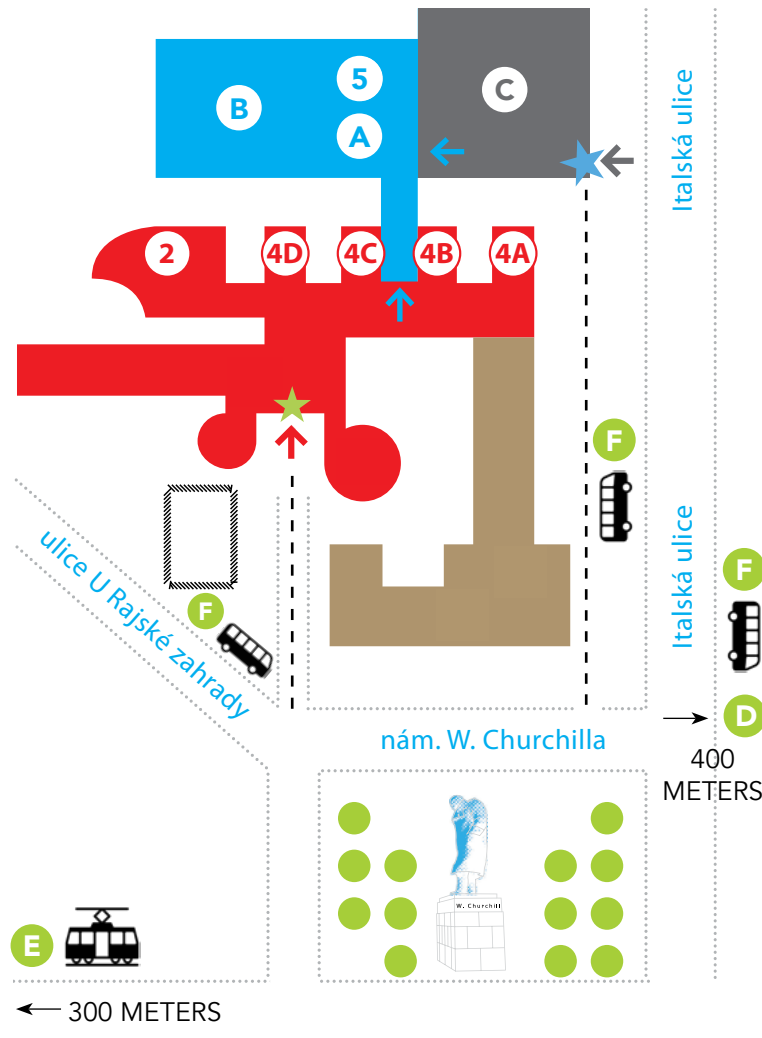
2424 American Lane, Madison, WI 53704
Telephone: 608-268-4712
Fax: 608-333-0310
Email: info@psychometricsociety.org

Žižkov Campus Map

VŠE

NB — NEW BUILDING

GROUND FLOOR: ② Vencovského Auditorium ④ Lecture Halls A, B, C, D

RB — RAJSKA BUILDING

FIRST FLOOR: ⑤ RB 101 Auditorium and Lecture Halls RB Ⓐ Registration Ⓑ Atrium RB
SECOND FLOOR: • Classrooms RB - 209, 210, 211, 212

IB — ITALSKA BUILDING

FIRST AND SECOND FLOOR: • Canteens Ⓒ Menza ★ **Main Entrance**

PT — PUBLIC TRANSPORT

Ⓓ The Direction Towards the Main Train Station
Subway Stop (Hlavní Nádraží/Line C)
Ⓔ Tram Stop (Viktoria Žižkov)
Ⓕ Bus Stop (Náměstí Winstona Churchilla)
★ Entrance/exit to the VŠE Building from outside

Italská ulice

ulice U Rajské zahrady

nám. W. Churchilla

400 METERS

300 METERS

W. Churchill

Prague Map

Prague University of Economics and Business

Carolinum

Pilsner Pub Municipal House

Boat Cruise on Vltava River

Hilton Old Town Prague Hotel
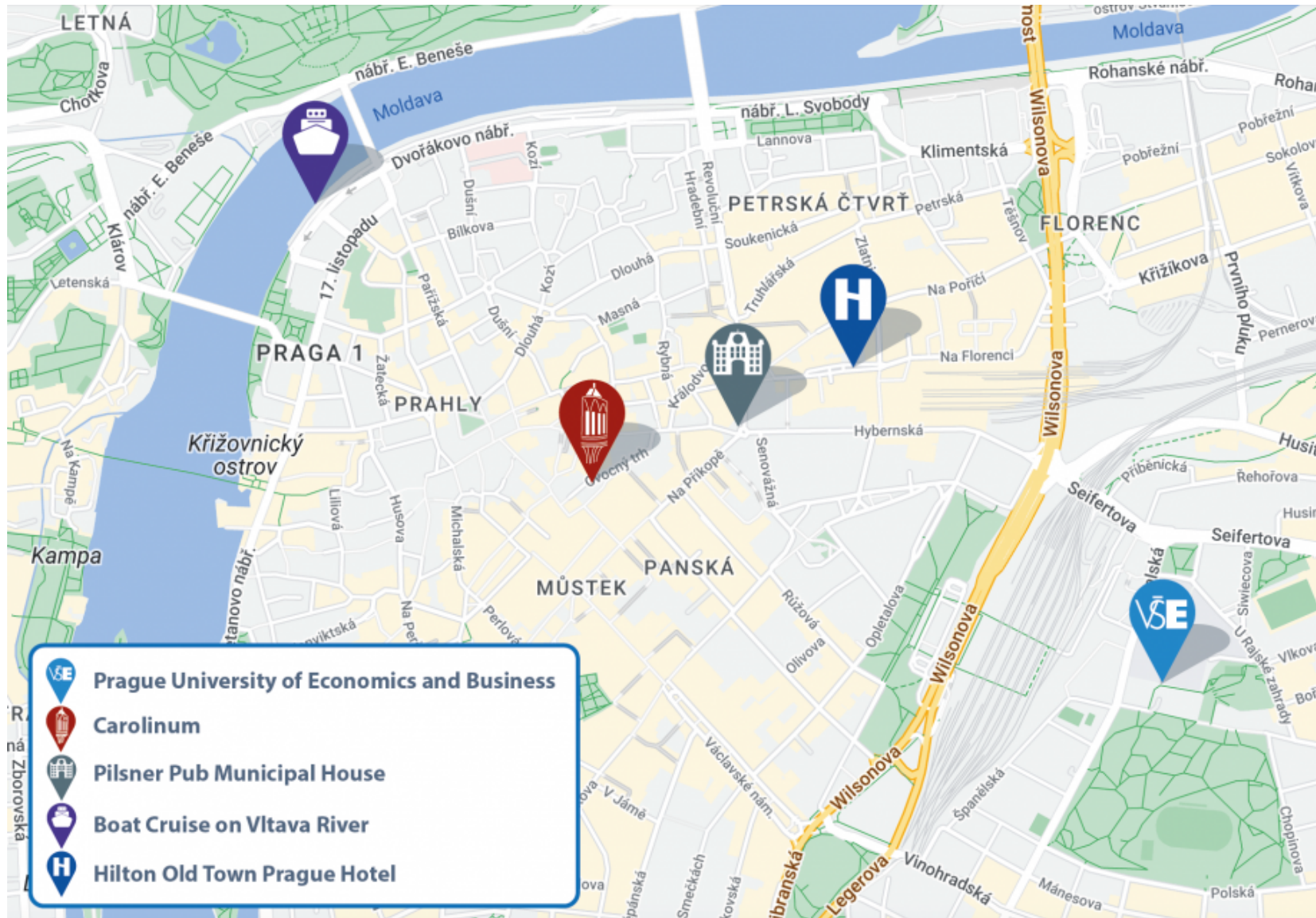
VŠE Building
Atrium of the RB Building
nám. Winstona Churchilla 1938/4, 130 00 Praha 3 - Žižkov

Monday, July 15:	**Tuesday, July 16:**	**Wednesday, July 17:**	**Thursday, July 18:**	**Friday, July 19:**
8:00 a.m. - 5:00 p.m.	8:00 a.m. - 4:30 p.m.	8:00 a.m. - 5:00 p.m.	8:00 a.m. - 4:00 p.m.	8:00 a.m. - 2:00 p.m.

Monday • July 15

RB 209

9:00 a.m. - 5:00 p.m.
Short Course #1:
Structural equation models for categorical outcomes using lavaan
Speakers: Dr. Terrence D. Jorgensen

9:00 a.m. - 10:30 a.m. • Short Course
10:30 a.m. - 10:50 a.m. • Refreshment Break
10:50 a.m. - 12:00 a.m. • Short Course
12:00 a.m. - 1:30 p.m • Lunch Break
1:30 p.m. - 3:00 p.m. • Short Course
3:00 p.m. - 3:20 p.m. • Refreshment Break
3:20 p.m. - 5:00 p.m. • Short Course

RB 210

9:00 a.m. - 5:00 p.m.
Short Course #2:
Tools of machine learning in psychometrics
Speakers: Dr. Rudolf Debelak & Dr. David Goretzko

9:00 a.m. - 10:30 a.m. • Short Course
10:30 a.m. - 10:50 a.m. • Refreshment Break
10:50 a.m. - 12:00 a.m. • Short Course
12:00 a.m. - 1:30 p.m • Lunch Break
1:30 p.m. - 3:00 p.m. • Short Course
3:00 p.m. - 3:20 p.m. • Refreshment Break
3:20 p.m. - 5:00 p.m. • Short Course

RB 211

Part 1: 9:30 a.m. - 12:30 p.m.
Part 2: 2:00 p.m. - 5:00 p.m.
Short Course #3:
Planning and conducting simulation studies in R
Speakers: Prof. Carolin Strobl & Dr. Mirka Henninger

9:30 a.m. - 11:00 a.m. • Short Course (Part 1)
11:00 a.m. - 11:20 a.m. • Refreshment Break
11:20 a.m. - 12:30 p.m. • Short Course (Part 1)
12:30 p.m. - 2:00 p.m. • Lunch (on your own)
2:00 p.m. - 3:30 p.m. • Short Course (Part 2)
3:30 p.m. - 3:50 p.m. • Refreshment Break
3:50 p.m. - 5:00 p.m. • Short Course

RB 212

9:30 a.m. - 12:30 p.m.
Short Course #4:
Computerized adaptive testing and multistage testing with R
Speakers: Dr. Duanli Yan & Dr. Alina A. von Davier

9:30 a.m. - 10:45 a.m. • Short Course
10:45 a.m. - 11:00 a.m. • Refreshment Break
11:00 a.m. - 12:30 p.m. • Short Course

9:00 a.m. - 9:15 a.m.	**Vencovského aula**
	Welcome: Prof. David Kaplan, Dr. Patrícia Martinková, Prof. Jakub Fischer, Dean of the Faculty of Informatics and Statistics, VŠE

9:15 a.m. - 10:15 a.m.	**Vencovského aula**
	Keynote Address: Prof. Adrian E. Raftery **Statistical inference with model uncertainty** *Chair: Prof. David Kaplan*

10:15 a.m. - 10:45 a.m.	**Atrium RB**
	## Refreshment Break

10:45 a.m. - 12:00 p.m.

Vencovského aula

Invited Panel: Quality standards for simulation studies in psychometrics
Chair: Prof. Steffi Pohl

Short presentations by:
Richard Feinberg

Terrence Jorgensen

Anna Lohmann

Björn Siepe

Anders Skrondal

Carolin Strobl

RB 101

Session: Problems in mediation analysis
Chair: Prof. Ying Yuan

Bayesian latent class dynamic mediation model
Prof. Ying Yuan

Relative importance analysis in multiple mediator models
Dr. Xin Gu

Assessing heterogeneous treatment effects in Bayesian longitudinal mediation models
Ziwei Zhang

Causal mediation analysis for binary outcomes with asymmetric link functions
Yuji Tsubota

NB A

Symposium: Asymmetric item response models
Chair: Dr. Jay Verkuilen
Discussant: Dr. Carl Falk

Heywood cases in asymmetric IRT
Dr. Jay Verkuilen

Bayesian model averaging of (a)symmetric IRT models in small samples
Fabio Setti

Parsimonious item response theory modeling with different link functions
Dr. Wes Bonifay

Unipolar IRT and vocabulary development
Prof. Daniel Bolt

NB B

Session: Topics in latent variable estimation
Chair: Dr. Björn Andersson

Uncertainty quantification for latent variable selection in high dimensional exploratory factor analysis
Ms. Xinyi Liu

Pairwise stochastic approximation for confirmatory factor analysis of categorical data
Dr. Giuseppe Alfonzetti

Generalized linear latent variable models with nonignorable missing data
Dr. Björn Andersson

A two-stage path analysis approach to model interaction effects for congeneric measures
Mr. Gengrui Zhang

Ability estimation for culturally responsive assessments
Dr. Sandip Sinharay

NB C

Symposium: Integrating large language models and artificial intelligence in research: network psychometrics, emotion dynamics, and open-ended evaluations
Chair: Dr. Hudson Golino

Assessing the quality of AI-generated items: a network psychometric approach
Mrs. Lara Russell-Lasalandra

Decoding emotion dynamics using transformer-based AI models: a novel approach for facial expression recognition in videos using transforEmotion R package
Dr. Aleksandar Tomašević

Improving retrieval-augemented generation and zero-shot classification with exploratory graph analysis
Dr. Hudson Golino

Extracting useful information from open-ended responses using zero-shot classification: an example using student's evaluation of teaching
Dr. Mariana Teles

NB D

Session: Topics in reliability
Chair: Victoria Savalei

Maximal reliability coefficients for bifactor models
Victoria Savalei

On the estimation of reliability in knowledge space theory
Prof. Andrea Spoto

Reliability in intensive longitudinal studies: a state-space vs. linear mixed model approach
Mr. Tzu-Yao Lin

Estimating reliability for mixed-format tests
Ye Yuan

Standard errors and null-hypothesis significance tests for reliability coefficients
Andries van der Ark

RB 209

Symposium: Advancements in structural equation modeling (SEM): model fit, parameter selection, and measurement invariance
Chair: David Goretzko

Sensitivity of model fit indices in SEM to underfactoring
Dr. Melanie Viola Partsch

Projection predictive variable selection for Bayesian regularized structural equation modeling
Dr. Sara van Erp

Exploring measurement non-invariance with exploratory factor analysis trees and exploratory graph analysis trees
David Goretzko

Measurement invariance in within-person latent structure for dynamic factor models
Dr. Ai Ye

A causal framework for the comparability of latent variables
Philipp Sterner

RB 210

Session: Developments in IRT
Chair: Prof. Mark Wilson

A new measure and an old measure of person fit
Mr. Horacio Rocha

Detection of local dependence within PCMs through recent L1-penalization approaches
Mr. Can Gürer

Investigating the invariant ordering of clustered items using nonparametric IRT
Dr. Letty Koopman

Integrating observations and test scores: a fixed-random item model
Prof. Mark Wilson

RB 211

Symposium: New developments in dynamic modeling
Chair: Dr. Sy-Miin Chow

Analytic standard errors for latent Gaussian discrete-valued multivariate time series
Mr. Christopher Crawford

Extending fit indices from structural equation models to state space models
Mr. Hyungeun Oh

Reliability in multilevel continuous time modeling
Xiaoyue Xiong

Standard errors and confidence intervals for total, direct, and indirect effects in continuous-time models
Dr. Sy-Miin Chow

RB 212

Session: Topics in factor analysis
Prof. Amanda Fairchild

Hierarchical relation among minimum rank FA, PCA, and prevalent FA
Prof. Kohei Adachi

The partially oblique rotation for exploratory factor analysis
Prof. Marcos Jiménez

Overcoming Heywood cases in factor analysis: a maximum penalized likelihood approach
Mr. Philipp Sterzinger

Does choice of nonnormal data generation algorithm affect simulation results?
Prof. Amanda Fairchild

VŠE Menza

Lunch (On Your Own)

1:30 p.m. - 2:15 p.m.

Vencovského aula

Invited Speaker: Dr. Cécile Proust-Lima
Continuous-time latent variable modeling of measurement scales in health studies: applications to the multiple-system atrophy progression
Chair: Prof. Silvia Bianconcini

RB 101

Invited Speaker: Dr. Esther Ulitzsch
Confirmatory mixture models for investigating contextual correlates of response behavior in ecological momentary assessments
Chair: Prof. Carolin Strobl

2:30 p.m. - 3:45 p.m.

RB 101

Session: Psychometric applications in psychology
Chair: Dr. Jenn-Yun Tein

Decoding intelligence: investigating the structure of intelligence
Ms. Laura Maria Fetz

An investigation the context effect in the multidimensional forced-choice personality measurement
Dr. Kyosuke Bunji

Dynamic and bidirectional associations between physical-activity, smartphone addiction and state self-esteem
Yang Cui

Predicting onset of child positive and negative affect and behavior
Dr. Jenn-Yun Tein

Developing a framework for testing dyadic associations using pseudodyads and permutations
Chiara Carlier

NB A

Session: Topics in categorical data analysis
Chair: Prof. Silvia Bianconcini

Ordinal latent space item response models for Likert scale assessments
Ludovica De Carolis

Implications of alternative parameterizations in structural equation models for longitudinal categorical variables
Prof. Silvia Bianconcini

Similarity measures between two sets of binary vectors
Prof. Sophie Vanbelle

Fitting and testing log-linear item response models with known support
Dr. David Hessen

NB B

Symposium: Beyond ignorability: advancing with partial identifiability in psychometrics
Chair: Dr. Eduardo Alarcón-Bustamante

A partial identifiability approach for analyzing regression functions with missing data in the outcome
Dr. Jorge Gonzalez

On the impact of missing outcomes in predictive capacity of selection tests studies
Dr. Inés Varas

Assessing the marginal effect under partial observability in a selection context
Dr. Eduardo Alarcón-Bustamante

NB C

Symposium: Novel advances in psychometric network modeling
Chair: Mr. Xinkai Du

From exploratory to confirmatory network psychometrics: fit indices and cutoff values
Mr. Xinkai Du

Integration of Ising model and computer adaptive testing: a simulation
Mr. Tuo Liu

Testing for similarity between idiographic networks: the individual network invariance test (INIT)
Ms. Ria Hoekstra

Bayesian estimation and comparison of idiographic network models
Björn Siepe

Exploratory subgroup detection of psychological networks: assessing the impact of ordinal and skewed data
Tatiana Kvetnaya

Challenges in sample size calculation for psychological networks with missing data
Kai Jannik Nehler

NB D

Symposium: Statistical learning approaches to psychometric challenges
Chair: Dr. Dylan Molenaar

Autoencoders for amortized joint maximum likelihood estimation of item response theory models
Dr. Dylan Molenaar

One shape may not fit all: detecting differences in trajectories using GAM trees
Dr. Marjolein Fokkema

Affect modeling with wavelet-based time series and statistical learning methods
Dr. Sy-Miin Chow

Handling missing data in variational autoencoder based item response theory
Mr. Karel Veldkamp

RB 209

Session: Differential item functioning
Chair: Prof. Ronna Turner

Group-specific detection rates when using tree-based differential item functioning methods
Prof. Ronna Turner

A comparison of various DIF detection methods under sparse matrices
Ms. Haeju Lee

Using criterion validity to solve the scale indeterminacy in the context of DIF: an external variable approach
Dr. Jesper Tijmstra

Calculating bias in equating and handling DIF anchor items
Prof. Marie Wiberg

RB 210

Symposium: Heterogeneity in repeated measures
Chair: Prof. Timothy Brick

Improving Boruta feature selection in multivariate framework
Ms. Priyanka Paul

Are general truths generally true? Accommodating meaningful heterogeneity in dynamic processes
Dr. Zachary Fisher

Making extremely heterogeneous person-specific dynamics so happy together: state space mixtures all the way down
Prof. Michael Hunter

Unsupervised model construction in continuous-time
Jonathan Park

RB 211

Session: Topics in longitudinal data analysis
Chair: Dr. Yan Wang

Developing cross-classified growth mixture models to account for student mobility
Dr. Yan Wang

A new approach of integrating nonlinear growth modeling on accelerated longitudinal design
Ms. HeeJoo Park

Validation of the intra-individual speed-ability relationship (ISAR) model
Augustin Mutak

Joint modeling: dynamic latent variables, survival outcomes, and MNAR data
Ms. Yvette Baurne

RB 212

**Symposium: Theory construction methods**
Chair: Mr. Jason Nak

Text mining systematic reviews: new directions for qualitative research synthesis
Mr. Rasoul Norouzi

AI-assisted theory construction
Meike Waaijers

A theory construction framework for networks
Mx. Adam Finnemann

PsychoModels and PsychoFacts: a platform for formal theory development in psychological science
Mr. Jason Nak
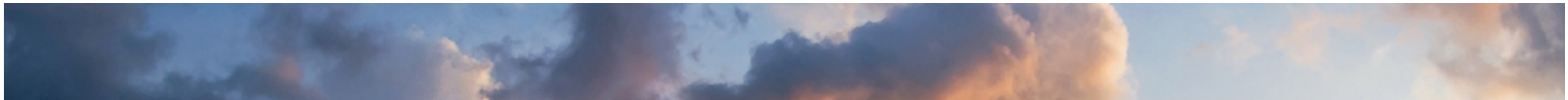
TUESDAY CONTINUED 3:45 p.m. - 4:15 p.m.	Atrium RB **Group Photo** All attendees welcome!	Atrium RB **Refreshment Break**

4:15 p.m. - 5:15 p.m.

Vencovského aula

Dissertation Award Speaker: Prof. Gyeongcheol Cho
Constructs may or may not be latent: studies on two domains of structural equation modeling
Chair: Prof. Terry Ackerman

6:30 p.m. - 9:00 p.m.

Carolinum (Charles University) | Address: Ovocný trh 560/5, 110 00, Praha 1 - Staré Město

Welcome Reception
Prof. Milena Králíčková, Rector of the Charles University; Prof. Antonín Jančařík, Dean of the Faculty of Education

6:30 p.m. - 9:00 p.m. • Enjoy delightful array of hors d'oeuvres and cocktails in the ground floor.
7:30 p.m. • Welcome remarks in the courtyard.
6:45 p.m. - 7:10 p.m. and 8:15 p.m. - 8:40 p.m. • Come to listen to organ and trumpets in the Great Hall located on the first floor.

9:00 a.m. - 10:15 a.m.

Vencovského aula

**Invited Panel:
Foundational competencies in educational measurement: an NCME task force consensus**
Chair: Prof. Andrew Ho

Andrew Ho (Chair/Presenter)
Harvard University

Ying (Alison) Chen (Presenter)
University of Notre Dame

David Thissen (Presenter)
The University of North Carolina at Chapel Hill

David Torres Irribarra (Presenter)
Pontificia Universidad Católica de Chile

Terry Ackerman (Discussant)
University of Iowa

RB 101

Symposium: Using process data to understand, assist, and enhance assessment
Chair: Dr. Mengxiao Zhu

Linking writing process data to writing quality
Hong Jiao

Explaining performance gaps with problem-solving process data via LCMA
Sunbeom Kwon

Scoring of argumentative writing using keystroke logs and deep learning models
Dr. Mengxiao Zhu

Selecting and analyzing eye movement features for the screening of reading disorders in children
Ms. Mingming Hu

NB A

Symposium: Latent variable models for complex data structures
Chair: Mariagiulia Matteucci

Joint modelling of students' academic performance and dropout
Prof. Michela Battauz

Cheating detection based on response times in CAT
Luca Bungaro

A new factor mixture model to detect aberrant respondents
Niccolò Cao

Latent variable models for panel data: comparison of estimation methods
Dr. Lucia Guastadisegni

Scalable M-estimation for GLLVM
Prof. Maria-Pia Victoria-Feser

NB B

Symposium: Modeling heterogeneity in response strategies
Chair: Dr. Rudolf Debelak

Mixture IRTree models for exploring heterogeneity in response mechanisms
Mr. Ömer Emre Can Alagöz

Investigating heterogeneity in IRTree models for response styles using R
Dr. Rudolf Debelak

Quantifying DIF and DSF effect sizes in partial credit trees
Dr. Mirka Henninger

Mining groups with exceptional response processes in structural equation models
Christoph Kiefer

NB C

Symposium: Using causal inference theory for designing and analyzing replication studies
Chair: Prof. Steffi Pohl

A causal replication framework for systematic replication efforts
Peter M. Steiner

Evaluating coaching supports in teacher education: A replication study approach
Qing Liu

A statistical framework for investigating causes of non-replicability
Steffi Pohl

Causes of non-replicability: Examining assumptions for causal inference
Marie-Ann Sengewald

Fractional factorial replication designs: Implementation and analysis
Muwon Kwon

NB D

Symposium: Advancements in conducting observational intensive longitudinal studies: Design, data, and analysis.
Chair: Dr. Sigert Ariens

Preprocessing ESM data: a framework, tutorial website, R package, and reporting templates
Jordan Revol

Episode-contingent experience-sampling designs for accurate estimates of autoregressive dynamics
Dr. Sigert Ariens

Consequences of missing data types of the multilevel AR(1) model
Mr. Benjamin Simsa

Combining day-to-day dynamics with day-of-week effects and weekly dynamics using seasonal ARMA models
Mr. Mohammadhossein Manuel Haqiqatkhah

A practical guide to estimating the reliability of ambulatory assessment data
Dr. IJsbrand Leertouwer

RB 209

Symposium: Quantitative methods for assessing the impact of physical environment on health
Chair: Dr. Sjoerd Ebisch

Predicting mental health through satellite images
Dr. Simone Di Plinio

Assessing recovery after high-intensity anaerobic exercise: a comparison between physiological and psychological measures
Dr. Luca Laezza

Validation of the "restorativeness at work scale" (R@WS)
Prof. Margherita Brondino

RB 210

Session: Applications of IRT
Chair: Dr. Daniel Dostál

Comparing EIRT models for mathematics and ELA across grades 3-8
Dr. Magdalen Beiting-Parrish

Using item response theory to investigate whether rater assessments measure rater quality: is there such a thing as a "correct" rating?
Dr. William Belzak

Selection of eye tracking stimuli via item response theory
Benjamin Graves

Modernizing high school assessments in Albania: exploring item response theory in state matura exams
Prof. Eralda Gjika

Enhancing scoring procedures for the divergent association task: leveraging sequential scoring and IRT paradigm
Dr. Daniel Dostál

RB 211

Session: Bayesian issues in IRT
Chair: Prof. Seock-Ho Kim

A Bayesian approach for joint modeling of rankings and ratings
Prof. Elena Erosheva

Bayesian nonparametric HETOP models for rating data
Dr. Giuseppe Mignemi

Some posterior standard deviations of the graded response model
Prof. Seock-Ho Kim

Estimation of IRT models using NUTS under non-normal distributions
Dr. Rehab AlHakmani

A Bayesian model to represent ambiguity and atypical behaviour in item response theory
Mario Angelelli

10:15 a.m. - 10:30 a.m.

Atrium RB

Refreshment Break

10:30 a.m. - 11:30 a.m.

Vencovského aula

**Career Lifetime Achievement Award: Prof. David Thissen
A selective intellectual history of differential item functioning analysis in item response theory and factorial invariance in factor analysis**
Chair: Prof. David Kaplan

11:30 a.m. - 1:00 p.m.

VŠE Menza

Lunch (On Your Own)

Vencovského aula

Invited Panel:
Paths to the future: A panel discussion of the future of SEM
Chair: Prof. Steven Boker

Participants include:

Steven Boker, University of Virginia

Timothy Brick, Pennsylvania State University

Zachary Fisher, Pennsylvania State University

Michael Hunter, Pennsylvania State University

David Kaplan, University of Wisconsin - Madison

Alberto Maydeu-Olivares, University of South Carolina

Mike Neale, Virginia Commonwealth University

Yves Rosseel, University of Ghent

Timo von Oertzen, Thomas Bayes Institute, Berlin

NB A

Session: Topics in IRT 1
Chair: Dr. Gabriel Wallin

Individual salience weights in the multidimenisonal generalized graded unfolding model
Prof. James Roberts

Item response function variability: a strategy for model comparison research
Mr. Xing Chen

Refinement of the matching item response model: a shift to generative modeling
Mr. Kentaro Fukushima

An explanatory hyperbolic cosine model with categorical covariates
Dr. Jue Wang

A taxonomy of unfolding models
Prof. George Engelhard

NB B

Symposium: Formal theories of psychological phenomena
Chair: Mr. Jesse Boot

Improving treatments for mental disorders using computational models
Dr. Jonas Haslbeck

From budworms to behaviors: bridging the gap between individual psychology and social contexts in addiction
Mr. Jesse Boot

Towards a general modeling framework of resource competition in cognitive development
Ms. Jill de Ron

Integrating intraindividual and interindividual phenomena in psychological theories
Prof. Denny Borsboom

NB C

Session: Novel approaches to IRT
Chair: Prof. Francis Tuerlinckx

Geometry and psychometrics
Prof. Francis Tuerlinckx

Regularized Gaussian variational estimation for detecting intersectional differential item functioning
Mr. He Ren

Bayesian diagnostic classification using doubly bounded visual analogue scaling
Ms. Hsin Kao

Likelihood-free estimation of IRT models in small samples: A neural networks approach
Dr. Dmitry Belov

A differential equation framework for the derivation of item response functions
Prof. Yvonnick Noel

NB D

Symposium: Quantifying replication success: correspondence measures for replication studies
Chair: Dr. Vivian Wong

Implementation of the correspondence test as an S-curve
Patrick Sheehan

How best to quantify replication success?
Prof. Don van Ravenzwaaij

A systematic comparison of correspondence measures for prospective replications
Dennis Kondzic

Assessing replication success over multiple replication study results
Dr. Vivian Wong

RB 209

Session: Topics in statistical/machine learning
Chair: Dr. Qiwei He

Estimating latent variance in variational autoencoders parameterization of Rasch models
Mr. Denis Federiaki

Unsupervised detection of random responding for Likert-type inventories with varying numbers of response categories
Mr. Michael John Ilagan

Predicting missing response with BERT model in process data
Dr. Qiwei He

Deep-learning methods for multiple imputation in large-scale survey assessments
Dr. Usama Ali

Exploring classic machine learning models and large language models in detecting ChatGPT generated essays in writing assessments
Mr. Haowei Hua

RB 210

Session: Topics in clustering
Chair: Dr. Magdalen Beiting-Parrish

Ordinal cognitive diagnosis in nonparametric framework
Prof. Youn Seon Lim

Sparse convex optimal discriminant clustering
Ms. Mayu Hiraishi

Generalized Bayesian method for diagnostic classification models
Dr. Kazuhiro Yamaguchi

Modeling examinee heterogeneity within performance classification using generalized low rank models
Dr. Magdalen Beiting-Parrish

RB 211

Session: Statistical topics
Chair: Dr. Katrin Jansen

Multivariate location-scale models for meta-analysis
Dr. Katrin Jansen

Bayesian modeling of data with ceiling or floor effects
Ms. Ruoxuan Li

Marginal and conditional posterior predictive p-values for ordinal models
Ms. Ellen Fitzsimmons

Use of external moment information via externally informed models
Mr. Martin Jann

The application of a metaheuristic algorithm when developing a test with a pre-defined value of the cut-off score
Lenka Firtova

2:30 p.m. - 3:15 p.m.

Vencovského aula

Invited Speaker: Dr. Patrícia Martinková
Computational aspects of psychometric methods and beyond
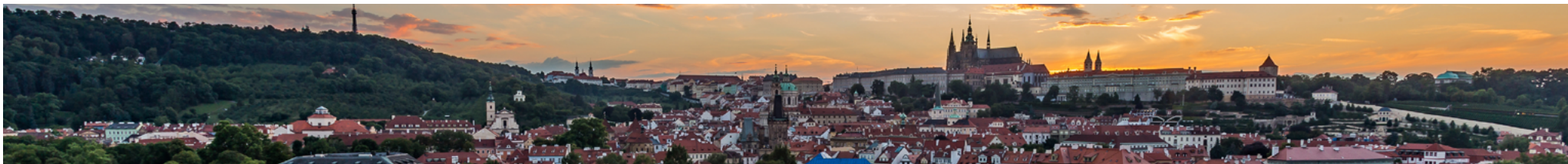*Chair: Prof. Irini Moustaki*

RB 101

Invited Speaker: Prof. Eiko Fried
Building bridges between psychometrics island and psychology mainland
Chair: Prof. Denny Borsboom

3:15 p.m. - 3:45 p.m.

Atrium RB

Refreshment Break

WEDNESDAY CONTINUED **3:45 p.m. -** **4:45 p.m.**	**Vencovského aula** **Early Career Award: Prof. Maarten Marsman** **From network psychometrics to Bayesian graphical modeling** *Chair: Prof. Daniel Bolt*
4:45 p.m. - **6:15 p.m.**	**Atrium RB** **Poster Session** Presenters will be available at posters from 5:00 p.m. - 6:15 p.m. **Click here to view the poster list.**
7:00 p.m. - **10:00 p.m.**	**Pivnice Obecní dům (Pilsner Pub Municipal House)	Address: náměstí Republiky 1090/5, 111 21, Praha 1 – Staré Město** **Graduate Student Dinner Mixer** This event is exclusively for graduate students and will be hosted by the Psychometric Society.

9:00 a.m. - 10:15 a.m.

Vencovského aula

Symposium: Psychometric methods for analysis of wellbeing in the context of digital technologies
Chair: Dr. Patrícia Martinková
Discussant: Prof. Steriani Elavsky

Dynamic systems modeling of human behaviors to improve proactive healthcare
Prof. Misha Pavel

The reliability of digital trace data in media exposure measures: a multiverse of measurements analysis
Dr. Oriol Bosch Jover

Joint modeling for non-ignorable missingness in intensive longitudinal data
Young Won Cho

Utilizing dynamic structural equation modeling on intensive longitudinal data: the inspiration for digital media use effects research
Mr. David Lacko

Quantification, testing, treatment and interpretation of non-Gaussian dependences in intensive longitudinal data: lessons learned from complex dynamical systems
Dr. Jaroslav Hlinka

RB 101

Session: Longitudinal latent class and CDM models
Chair: Jonathan Templin

Discovery of attribute hierarchies in longitudinal cognitive diagnostic models
Dr. Yinghan Chen

Regularized variational Bayes for Q-matrix inference in cognitive diagnosis models
Ms. Yi Jin

A wrinkle in the IRT theta continuum: exploring DCM classification
Jonathan Templin

Stepwise estimation approaches of complex latent class models: best practices
Dr. Zsuzsa Bakk

NB A

Symposium: Novel statistical approaches to tackle challenges in intensive longitudinal data
Chair: Marieke Schreuder (Belgium) - KU Leuven

Improving the estimation of sample heterogeneity in multivariate dynamic processes through feature selection
Ms. Di Jody Zhou

Investigating emotional recovery using survival analyses of burst ESM data
Marieke Schreuder

Person-specific updating approach to deriving EWMA control limits in case of few in-control observations
Dr. Evelien Schat

Training window selection methods for passive sensing
Fridtjof Petersen

NB B

Session: Theoretical and applied issues in validity
Chair: Keith Markus

Notes toward a grammar of validity arguments
Keith Markus

Integrating IRT and GT via a four-building-block approach
Mr. Mingfeng Xue

Mitigating social desirability using item quadruplets and MIMIC
Dr. Felipe Valentini

Assessing teaching skills: overcoming psychometric hurdles in observational measures
Mr. Steffen Erickson

NB C

Session: Bayesian stacking, trees, and predictive modeling
Chair: Prof. Sierra Bainter

On the improvement of predictive modeling using Bayesian stacking and posterior predictive checking-an example of modeling gender inequality in reading using PISA 2018
Dr. Mariana Nold

Incorporating sparsity into Bayesian stacking procedures
Ms. Kjorte Harra

Bayesian posterior predictive checks to analyze flexible distributional models
Ms. Paulina Grekov

Bayesian treed regression for estimating heterogeneous trajectories of test scores in large-scale educational data
Ms. Mingya Huang

Variable selection with missing data using Bayesian additive regression trees
Prof. Sierra Bainter

NB D

Session: Topics in missing data analysis
Chair: Dr. Joost Van Ginkel

How many plausible values?
Dr. Paul Jewsbury

Planned missing data designs for addressing measurement reactivity
Mark Himmelstein

Moderated factor analysis with missing data: a multiple imputation approach
Dr. Joost Van Ginkel

Ising network analysis with missing data
Dr. Siliang Zhang

RB 209

Session: Topics in causal inference 1
Chair: Prof. Jee-Seon Kim

Validation of an SEM multiverse path test
Ronald Flores

Addressing clustered data structures in causal mediation analysis
Hanna Kim

An overarching framework for examining diverse forms of heterogeneous causal effects
Prof. Jee-Seon Kim

Evaluating RKHS mapping effects on functional structural equation models
Dr. Michio Yamamoto

Multilevel regression discontinuity analysis with measurement models
Youngjin Han

RB 210

Session: Machine learning and deep learning
Chair: Dr. Benjamín Garzón

A deep learning approach for a more efficient estimation of rank preserving models
Mr. Roberto Faleh

Modelling computer-based formative assessment data with graph neural networks
Dr. Benjamín Garzón

Residual permutation tests for feature importance in machine learning
Dr. Po-Hsien Huang

Parameterized material recommendation with dual-goal adaptive learning system
Dr. Tongxin Zhang

RB 211

Session: Bayesian factor analysis and SEM
Chair: Prof. Christian Aßmann

Bayesian dynaimic mediation model
Mr. Chen Qijin

Bayesian SEM fit indices: now for categorical indicators
Dr. Mauricio Garnier-Villarreal

Bayesian fit measures in approximate measurement invariance in cross-cultural research
Dr. Chunhua Cao

Bayesian confirmatory factor analysis with missing values
Prof. Christian Aßmann

Bayesian joint modal estimation for sparse item factor analysis
Dr. Kensuke Okada

10:15 a.m. - 10:45 a.m.

Atrium RB

Refreshment Break

10:45 a.m. - 11:45 a.m.

Vencovského aula

Keynote Speaker: Prof. David MacKinnon
The investigation of mediating processes as a measurement challenge
Chair: Prof. David Kaplan

VŠE Menza

Lunch (On Your Own)

1:15 p.m. - 2:30 p.m.

Vencovského aula

Symposium: Item response theory and health outcomes: novel applications and methods
Chair: Dr. Leah Feuerstahler

Latent variable modeling for unipolar constructs in health sciences
Dr. Edward Ip

The application of IRT to traumatic brain injury research: some promise and challenges
Dr. Brooke Magnus

Mixture item response theory to quantify cumulative environmental exposure burden
Dr. Shelley Liu

An explanatory IRT model for toxicity-weighted environmental exposure burden scores
Dr. Leah Feuerstahler

RB 101

Session: Problems in cognitive diagnostic modeling
Chair: Dr. Pablo Nájera

A psychometric analysis on associations between coding concepts and item difficulty
Chen Li

Evaluating methods for assessing model fit in diagnostic classification models
Jake Thompson

A general diagnostic modeling framework for forced-choice items
Dr. Pablo Nájera

Correcting validity coefficients with aggregated data in cognitive diagnosis models
Dr. Rodrigo Schames Kreitchmann

A generalized Q-matrix estimation method for nonparametric cognitive diagnosis
Mrs. Jia Li

NB A

Session: Topics in factor analysis
Chair: Dr. Alexis Georgeson

Covariate-adjusted generalized factor analysis with application to testing fairness
Jing Ouyang

A factor analytic analogue for summed score EAPs
Dr. Alexis Georgeson

Comparing item selection in regularized factor analysis and network models
Ms. Jiaying Chen

Multilevel factor mixture modeling: a simulation study
Dr. Eunsook Kim

Pseudo-factor analysis of embedding similarity matrices
Nigel Guenole

NB B

Symposium: Recent advances in (non-)Bayesian informative hypothesis evaluation
Chair: Dr. Rebecca Kuiper

Applying the informative hypothesis approach to media effects
Ms. Nikol Kvardova

Theory-based hypothesis evaluation using information criteria
Dr. Rebecca Kuiper

Bayesian evaluation of N=1 studies
Prof. Herbert Hoijtink

Making nomological networks confirmatory using GORICA
Mr. Petr Palisek

Benchmarks and cut-off norms: necessary evils or questionable science inducers?
Lars de Vreugd

Emotions under control? The relationship between emotionality and cognitive control reverse if event-unpleasantness is increased within individuals
Mr. Levente Rónai

NB C

Session: Topics in intensive longitudinal data analysis
Chair: Conor Lacey

Extending the time-varying temporal network to allow changing contemporaneous connections
Simran Johal

Individual versus group-level analysis techniques for intensive longitudinal data: a primer
Conor Lacey

Investigation of detrending methods for intensive longitudinal dyadic data analysis
Yue Xiao

Estimating actor and partner effects from intensive longitudinal dyadic data with large amounts of missing values: estimation performance of the longitudinal actor-partner interdependence model and possible alternatives
Yuanyuan Ji

NB D

Symposium: Using structural equation models to analyze round-robin data from social networks
Chair: Dr. Terrence Jorgensen

Multiple constructs multiple indicators social relations modes with and without roles
Dr. Fridtjof W. Nussbeck

A correlated traits correlated (methods – 1) multitrait-multimethod model for augmented round-robin data
Dr. David Jendryczko

Toward a general multivariate framework for social network data: An overview of estimation methods for structural social-relations models
Dr. Terrence Jorgensen

Incorporating level-specific covariates in structural equation models of social-network data
Ms. Aditi Manoj Bhangale

RB 209

Session: Differential item functioning
Chair: Dr. Heining Cham

Detecting non-uniform differential item functioning in latent variable interaction framework
Dr. Heining Cham

Extending the cluster approach to differential item functioning in polytomous items
Mr. Martijn Schoenmakers

Advancing polytomous DIF detection with the residual DIF framework
Dr. Hwanggyu Lim

Assessing differential step functioning for polytomous items with scale purification
Dr. Ya-Hui Su

RB 210

Symposium: Psychometric innovations for adaptive learning systems
Chair: Dr. Maria Bolsinova

A dynamic k value approach for the Elo rating system
Hanke Vermeiren

Curious interactions between learners and Elo rating systems
Dr. Abe Hofman

Tracking changing abilities in adaptive learning system using response times
Bence Gergely

Modeling individual differences in error-induced quitting
Ms. Annie Johansson

RB 211

Session: Graduate Student Research Competition
Chair: Prof. Silvia Cagnone

Presentations by the following teams:

Integrating Generative AIs into Computerized Adaptive Testing
Diego F. Graña, Diego Iglesias, Marcos Jiménez and Nuria Real-Brioso, Faculty of Psychology, Universidad Autónoma de Madrid

A Battle of Wits: Comparing the Capabilities of Generative AI and Humans in Scale Development
Meltem Ozcan, Winnie W.-Y. Tse, Gengrui Zhang, Department of Psychology, University of Southern California

Expanding the Scope of Data Sources in Psychometric Research by Embedding Individual Records using Generative AI
Shihao Wu, Chengyu Cui, Bo Meng, Jing Ouyang, and Zhiwei Xu, Department of Statistics, University of Michigan

Vencovského aula

Cito Special Symposium:
The future of educational measurement:
Integrating AI and psychometrics
Chair: Dr. Joost Kruis

Safeguarding the human element in educational measurement: why we need qualitative methods for validation in the quantitative era of AI
Mr. Max van Haastrecht

Harmonizing ADHD scores by using different methods (linear equating, Kernel Equating, IRT, machine learning)
Miljan Jovic

Using natural language processing to score [short] answers to open-ended items
Dr. Joost Kruis

Psychometrics as the origin of statistics as the origin of data science
Dr. Ivailo Partchev

RB 101

Session: Dimensionality and IRT
Chair: Dr. Chia-Wen Chen

Beyond confirmatory: dimensionality assessment in forced-choice data
Mr. Diego Graña

Semi-parametric item factor analysis
Dr. Camilo Cardenas

Score-Based Tests for Parameter Instability in Ordinal Factor Analysis Models
Franz Classe

A bifactor Thurstonian IRT Model for multidimensional forced-choice questionnaires with negative wording effect
Dr. Chia-Wen Chen

NB A

Session: Priors in Bayesian models
Chair: Dr. Josine Verhagen

Inferring mastery of math skills over time using power priors
Dr. Josine Verhagen

On the prior effective sample size of normal and Dirichlet priors for threshold parameters
Dr. Noah Padgett

Bayesian power priors in latent variable models with small samples
Dr. Lihan Chen

Zero-and-one-inflated generalized Dirichlet distribution to estimate the order of resource allocation
Mr. Taisei Wakai

NB B

Session: Topics in causal inference 2
Chair: Mr. Graham Buhrman

Prognostic score methods for the estimation of average causal effects
Mrs. Chamika Porage

Monotonicity matters: evaluating heterogeneous treatment effect estimation via nonparametric regression tree methods
Mr. Graham Buhrman

Disentangling person-dependent and item-dependent causal effects: applications of item response theory to the estimation of treatment effect heterogeneity
Mr. Joshua Gilbert

Strengthening causal claims from educational studies: a sensitivity analysis approach
Ms. Elaine Chiu

Estimating the causal impact of test changes on test scores in continuous high-stakes assessments
Dr. Manqian Liao

NB C

Session: Psychometric applications to health
Chair: Mr. Nico Remmert

Assessing clinical avoidance behavior: a testing framework using process data
Mr. Nico Remmert

Investigating measurement invariance of the simplified beck depression inventory using rating scale tree model
Mr. Farshad Effatpanah

The patient activation measure read aloud in a clinical setting
Ms. Magdalena Holter

NB D

Session: More on AI and machine learning
Chair: Prof. Elise Dusseldorp

Meta-regression trees: three innovations
Prof. Elise Dusseldorp

Introducing multilevel lasso models into value-added assessment for variable selection
Ms. Qing Zeng

AI-based AIG for mathematics within a learning engineering framework
Prof. Ji Hoon Ryoo

Automating psychometrics: AI - powered item generation
Dr. Karel Recka

An introduction to anytime-valid inference in psychology
Mark Van Lokeren

RB 209

Session: Psychometric applications to cognition and learning
Chair: Dr. Sunmee Kim

Stop using d' and start using d_a : evidence from empirical data on how to measure sensitivity in recognition memory
Prof. Adva Levi

Intersectional approaches to understanding heterogeneity of cognition aging: a data-driven exploration
Dr. Sunmee Kim

Score development for the NIH infant and toddler toolbox gaze
Dr. Lihua Yao

RB 210

Session: Response processes and test taking behaviors
Chair: Dr. Jing Lu

Detecting test speededness based on Schwarz information criterion
Dr. Jing Lu

Accounting for rapid guessing in competence estimation in large-scale assessments
Eva Zink

Enhancing tree-based models for detecting test-taking behaviors: integrating response time and process variables
Ms. Tamlyn Lahoud

Bayesian factor mixture modeling with response time for detecting careless respondents
Ms. Lijin Zhang

Modeling careless responding in experience sampling data
Milla Pihlajamäki

RB 211

Session: Topics in large-scale assessments
Chair: Dr. Hua-Hua Chang

Comparing large-scale assessments with the total survey error approach
Dr. Peter van Rijn

New standards for validating AI-based educational assessments
Dr. Hua-Hua Chang

The standard error of equated test scores
Prof. Wim J. van der Linden

Examining the performance of hybrid and traditional multistage tests under different conditions
Dr. Cagla Alpayar

RB 212

Session: Topics in IRT 2
Chair: Prof. Ruggero Bellio

Importance: A new item parameter that cannot be revealed by single stimulus data
Dr. Safir Yousfi

Simulation-based uncertainty estimates for and extension of effective difficulty and discrimination measures for binary item response models
Mr. Peter Johnson

Bias-reduced fixed effects estimation of two-parameter logistic models
Prof. Ruggero Bellio

Should we trust model flexibility? Investigating alternative polytomous IRT models
Dr. Giovanni Bruno

Bit scales for item response theory models
Mr. Joakim Wallmark

4:00 p.m. - 4:15 p.m.

Atrium RB

Refreshment Break

4:00 p.m. - 6:45 p.m.

Atrium RB

IMPS 2024 Group Excursion City Walking Tour

9:00 a.m. - 10:15 a.m.

Vencovského aula

ETS Special Symposium: Psychometric innovations in large-scale survey assessments
Chair: Dr. Duanli Yan

Variable selection techniques for imputation models
Dr. Peter van Rijn

Imputation models for special subpopulations
Dr. Usama Ali

Linking error in large-scale assessments
Dr. Paul Jewsbury

RB 101

Symposium: From traditional to modern methods for the analysis of multi-item measurements
Chair: Dr. Lubomír Štěpánek and Dr. Adéla Hladká
Discussant: Dr. Gabriel Wallin

Robust inference for traditional item discrimination index
Dr. Lubomír Štěpánek

Innovative iterative algorithms for estimation of item functioning
Dr. Adéla Hladká

Three and four-parameter IRT model in factor analysis framework
Ján Pavlech

Fine-tuning language models to predict item difficulty from wording
Jan Netík

On the identifiability and structural learning of R-RUM models
Iván Pérez

NB A

Session: Topics in IRT 3
Chair: Dr. Ben Domingue

Combining item responses and paired comparisons in small sample contexts
Dr. Nathan Zoanetti

Modeling process data with explanatory item response models
Dr. Susanne Frick

A mixture-IRT model for carless responding with flexible assumptions
Irina Uglanova

The item response warehouse (IRW)
Dr. Ben Domingue

Standardized person-fit statistics for tests with polytomous items
Prof. Kylie Gorney

NB B

Session: Topics in adaptive testing
Chair: Dr. Aron Fink

Adaptively regulated interim theta bounds for optimizing CAT item selection
Dr. Sung-Hyuck Lee

Non-parametric item response theory for computerized adaptive tests
Laura Aspirot

Computerized adaptive testing with continuous items: Improving the efficiency of noncognitive assessments
Mr. Wei-Hung Yang

Addressing calibration error in multidimensional adaptive testing: A Bayesian approach
Dr. Aron Fink

Evaluating models for item cloning variation under multistage testing
Dr. Won-Chan Lee

NB C

Session: Longitudinal designs and methods
Chair: Dr. Charles Driver

Continuous-time modeling of bivariate developmental trajectories in accelerated longitudinal designs
Ms. Nuria Real-Brioso

More on cross-lagged effects -- (mis) specification in dynamic systems models
Dr. Charles Driver

SimDE app: simulating and visualizing formal theories using differential equations
Rohit Batra

Integral dimensionality reduction in models that include nonlinear random coefficients
Dr. Shelley Blozis

NB D

Symposium: New insights in longitudinal data and mediation analysis
Chair: Prof. Zhiyong Zhang

Modeling dynamic components in intensive longitudinal data analysis: a comparison of one-step vs. two-step approaches
Dr. Peggy Wang

Quantile longitudinal data modeling with missing data
Dr. Xin Tong

Analysis of mediation direction change between manifest and latent variable modeling
Dr. Ke-Hai Yuan

Mediation analysis with text data
Prof. Zhiyong Zhang

A longitudinal study of the impact of living style on the health and mortality risk of the elderly
Prof. Yong Wen

RB 209

Session: Classification methods
Chair: Dr. Liqun Yin

Constructing language models to predict massive student sentiment toward universities
Tonghui Xu

Advancing enemy item detection using transformer-augmented NLP
Dr. Paulius Satkus

Improving context scale interpretation using latent class analysis for cut scores
Dr. Liqun Yin

Blueprinting the future: automatic item categorization using hierarchical zero-shot and few-shot classifiers
Dr. Ting Wang

RB 210

Session: Psychometric applications to education
Chair: Dr. Diego Carrasco

Multilevel synthesis of composite cross-classified event scores as a psychometric approach for EdTech
Dr. Dmitry Abbakumov

Latent logistic regression analysis of background characteristics on digital literacy
Dr. Qianru Liang

Accounting for ceiling effects on polytomous responses. An illustration with gender equality endorsement.
Dr. Diego Carrasco

Score-difference-at-risk (SDaR): using risk metrics to anticipate negative impact.
Dr. Sergio Araneda

RB 211

Session: Topics in machine learning
Chair: Dr. Youmi Suk

An interpretable cognitive diagnostic model based on XGBoost and shap
Ms. Chang Nie

Understanding of measurement invariance within a SEMtree framework
Mr. YeongJin Jo

Using conditional tabular generative adversarial networks for process data generation in Monte Carlo simulation studies
Dr. Youmi Suk

Unveiling competencies for efficient AI utilization: a psychometric perspective
Ms. Bhavana Srirangam

10:15 a.m. - 10:30 a.m.

Atrium RB

Refreshment Break

10:30 a.m. - 11:15 a.m.

Vencovského aula

Invited Speaker: Dr. Maria Bolsinova
Rating systems for measurement in adaptive learning systems: challenges and solutions
Chair: Prof. Maarten Marsman

RB 101

Invited Speaker: Prof. Peter Halpin
Using robust scaling to address DIF and DTF in latent variable models
Chair: Prof. David Thissen

RB 101

Symposium: User beware - emerging evidence that survey item calibration and scoring decisions can introduce substantial bias into growth mixture model results
Chair: Dr. Veronica Cole

Latent trajectory or measurement artifact? Understanding the effects of unmodeled response styles on growth mixture modeling results.
Dr. Veronica Cole

Why producing unbiased survey scores for use in growth mixture models is almost impossible: a few illustrations
Dr. James Soland

Investigating the sensitivity of growth mixture model results to conditioning scoring decisions on time-invariant covariates
Stephen Tavares

NB A

Session: Applications of longitudinal data analysis
Chair: Dr. Soojin Park

Comparing trajectories of school-to-work transitions using latent transition analysis
Dr. Tomasz Żółtak

Identifying subject heterogeneity in longitudinal brain connectivity patterns with clusterwise-IVA
Dr. Tom Wilderjans

Ability tracking for intelligent tutoring systems
Mr. Karl Sigfrid

Decomposing social disparities through various interventions: incorporating simulation-based sensitivity analysis
Dr. Soojin Park

NB B

Session: Topics in structural equation modeling
Chair: Dr. Graham Rifenbark

Recursive partitioning of continuous-time structural equation models
Dr. Pablo F. Cáncer

Evaluating multigroup structural equation modeling with exploratory measurement models
Ms. Jennifer Dang Guay

Small sample estimation of structural equation models: a comparison of alternative estimation approaches
Dr. Graham Rifenbark

NB C

Session: AI and machine learning in educational settings
Chair: Dr. Cheng Liu

Investigating text complexity indices in predicting SME-rated passage grade
Dr. Ann Hu

Unreliability and historical bias and their relationship to test fairness and equity
Dr. Cheng Liu

Exploring the frontier of fairness: The significance of outliers in algorithmic bias and equity
Dr. Secil Ugurlu

NB D

Symposium: Methodological advances in Bayesian graphical modeling
Chair: Ms. Sara Keetelaar

Testing conditional independence in psychometric networks
Nikola Sekulovski

How robust are psychometric networks?
Ms. Karoline Huth

Are psychological networks sparse or dense?
Ms. Sara Keetelaar

Dynamic conditional networks for intensive repeated data
Prof. Philippe Rast

RB 209

Session: Estimation methods
Chair: Dr. Yeh-Tai Chou

Applying Fisher's method of scoring to estimate ability parameters of the multi-unidimensional pairwise-preference model
Dr. Yeh-Tai Chou

Estimating hierarchical drift diffusion models: a comparison of methods
Ms. Yufei Wu

Dealing with small-sample biases in AR(1) models: methods for psychological research
Zhiwei Dou

Empirical bias-reducing adjustments for item response theory (IRT) models
Dr. Haziq Jamil

Estimating high-dimensional latent variable models via minibatch variance-reduced stochastic optimisation
Mr. Motonori Oka

RB 210

Session: Topics in IRT 4
Chair: Dr. Merve Sarac

Item compromise and preknowledge detection using response time and distractors
Dr. Merve Sarac

Exploratory higher-ordered diagnostic modeling framework for general response types
Ms. Jia Liu

Using the multidimensional nominal response model to model faking: the importance of item desirability characteristics
Mr. Timo Seitz

A multivariate logit-function for modeling continuous bounded interval responses
Mr. Matthias Kloft

Respondent-level change-point detection in educational and psychological testing
Dr. Gabriel Wallin

RB 211

Session: Psychometric applications to health outcomes
Chair: Dr. Carl Falk

Researching response-scale format effects in questionnaires: using the height Inventory
Dr. Hynek Cígler

Bot detection: simulations and application in people-centered health measurement surveys
Dr. Carl Falk

Cognitive psychometric approach for modeling cognitive aging across ambulatory assessments
Sharon Kim

Do psychometrics matter? The effects of psychometrics on depression trial outcomes
Dr. David Byrne

FRIDAY CONTINUED 12:45 p.m. - 2:00 p.m.	**VŠE Menza** **Lunch (On Your Own)**
2:00 p.m. - 3:00 p.m.	**Vencovského aula** **Presidential Address: Prof. David Kaplan** **Probabilistic forecasting with international large-scale assessments: methods for estimating the pace of progress to the United Nations education sustainable development targets** *Chair: Prof. Denny Borsboom*
3:00 p.m. - 3:30 p.m.	**Vencovského aula** **Members Meeting**
3:30 p.m. - 4:30 p.m.	**Vencovského aula** **Awards and Closing Ceremony**
6:00 p.m. - 10:00 p.m.	**Prague Boats	Address: Dvořákovo nábř., 110 00 Praha 1 - Josefov, Prague** **Closing Banquet Reception & Boat Cruise**

*- Thank you to the **Prague Convention Bureau** for the images used in this document. -*

Special thank you to our IMPS 2024 Sponsors and Exhibitors this year!

The IMPS 2024 Exhibitors and Sponsors will be located in the Atrium RB of the VŠE Building.
All IMPS refreshment breaks will be located in this area.

Please plan time to and visit with these companies and organizations during the week of IMPS 2024!

EXHIBIT AREA HOURS
Tuesday, July 16 | 10:00 a.m. - 4:15 p.m.
Wednesday, July 17 | 10:00 a.m. - 3:45 p.m.
Thursday, July 18 | 10:00 a.m. - 4:15 p.m.
Friday, July 19 | 8:30 a.m. - 10:30 a.m.

. . . .

Thank You to Our 2024 Exhibitors!

CRC Press
Taylor & Francis Group
CHAPMAN & HALL

LIfBi
LEIBNIZ INSTITUTE FOR
EDUCATIONAL TRAJECTORIES

Springer

LEVEL ONE SPONSORS

Institute of Computer Science — Czech Academy of Sciences

FACULTY OF EDUCATION — Charles University

CiTOLab

*ets research institute

UNIVERSITY OF ECONOMICS AND BUSINESS — VŠE PRAGUE

LEVEL TWO SPONSORS

CollegeBoard

duolingo english test

EdAstra Tech

eMetric

Graduate Management Admission Council

IEA

Mplus®

STUDENT TRAVEL AWARD SPONSORS

duolingo english test

EdAstra Tech

*ets research institute

Journal of Intelligence — an Open Access Journal by MDPI

Mplus®

GRADUATE RESEARCH COMPETITION SPONSOR

VECTOR Psychometric Group

IN-KIND SPONSORS

CRC Press — Taylor & Francis Group — CHAPMAN & HALL

PRAHA PRAGUE PRAGA PRAG

Springer

IMPS 2024
Prague | Czech Republic