

IMPS 2022

BOLOGNA ITALY

University of Bologna

July 11-15

Final
Program

 PSYCHOMETRIC
SOCIETY



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Dear Attendees and Guests,

We cordially welcome you to IMPS 2022, the 87th Annual Meeting of the Psychometric Society, held at the University of Bologna in Italy. This year's meeting is special after two years of virtual conferences and the challenging time due to COVID-19.

The University of Bologna is recognized as the oldest university in the Western world and one of the largest in Italy, with about 88,000 enrolled students across 32 departments, four campus areas in the Emilia Romagna region and a permanent headquarter in Buenos Aires. There are 5,600 research staff, of whom 1,700 are PhD students. Around 13,000 pieces of research have been produced, along with 177 registered patents. The University of Bologna offers many services supporting research, innovation, knowledge transfer and participation in many European programmes. Recently there has been a significant focus on European Research programmes, especially FP7 and Horizon 2020, and other programmes such as the Lifelong Learning Certificates, ARTEMIS, ENIAC and Cleansky JTI, and many others. The University of Bologna has achieved a total financial aid of around 69 million euros for European funding programmes through 221 funded projects - acting as coordinator in 44 of them.

Psychometrics and applied statistics research and teaching can be found in several departments, but mainly in the Department of Statistical Sciences hosting IMPS 2022. The Department of Statistical Sciences is one of the biggest Statistics departments in the world, with over 70 professors and researchers, about 20 PhD students and as many research fellows. The Department promotes research and teaching of excellence in methodological and applied statistics. The broad spectrum of scientific production covers numerous thematic areas in the name of interdisciplinarity. The main areas of interest concern methodological statistics, data science, probability, demography and social statistics, medical statistics and biostatistics, economic statistics, statistics for tourism, applied economics, financial mathematics and actuarial science and applications of many substantive fields.

The conference starts with five parallel short courses on Monday, July 11. The leading conference runs from Tuesday, July 12, to Friday, July 15. The conference's opening and welcome will be on Tuesday at 9:30 a.m. in Room

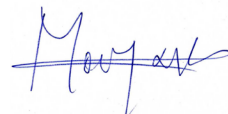
B (at the Belmeloro Building). At 5:30 p.m., the Welcome Reception will take place in Palazzo Poggi at the Rectorate of the University of Bologna. The conference will close on Friday with the awards ceremony scheduled from 4:45-5:30 p.m. followed up by the conference dinner in Palazzo Re Enzo.

We have arranged various social events, which are listed in the program booklet and on the website. There are two events that we especially want to draw attention to. One is the *Graduate Student Mixer* on Tuesday, July 12, from 12:10 p.m. until 1:30 p.m. at the Scuderia in the Cittadella Universitaria. The second is the *Meeting of Members* held on Friday from 2:55 p.m. to 3:25 p.m., where the members of the Psychometric Society have the opportunity to be informed about and participate in the policy and activities of the Society.

As you can gather from the program booklet, we have a complete program featuring eminent keynote and invited speakers.

Besides the scientific aspects, Bologna has much more to offer. If you have the time, you may take the opportunity to visit other places in Emilia Romagna and neighbouring regions. Check out the conference website for suggestions.

We are convinced that we will have a fruitful exchange of scientific ideas and a wonderful time. We hope you enjoy the conference and your stay in Bologna!



Irini Moustaki
President of the Psychometric Society

Silvia Cagnone
Silvia Bianconcini
Stefania Mignani
Mariagiulia Matteucci
Fedele Pasquale Greco
Matteo Farné
Saverio Ranciati
Local Organizing Committee

Short Course #1

Analyzing NAEP and TIMSS Data with Direct Estimation Using the R Packages EdSurvey and Dire

Monday, July 11 | 10:00 a.m. - 5:30 p.m.

Speakers: Emmanuel Sikali, Paul Bailey & Ting Zhang

Short Course #2

Machine Learning and Interpretable Machine Learning with R

Monday, July 11 | 10:00 a.m. - 5:30 p.m.

Speakers: Carolin Strobl, Mirka Henninger & Yannick Rothacher

Short Course #3

SimSEM-in-R: Simulating Structural Equation Models Using lavaan and simsem

Monday, July 11 | 10:00 a.m. - 5:30 p.m.

Speaker: Terrence D. Jorgensen

Short Course #4

Introduction to Structural Equation Modeling Using lavaan

Monday, July 11 | 10:00 a.m. - 1:15 p.m.

Speaker: Yves Rosseel

Short Course #5

Computerized Adaptive Testing and Multistage Testing with R

Monday, July 11 | 10:00 a.m. - 1:15 p.m.

Speakers: Duanli Yan & Alina A. von Davier

Short Course #6

Understanding SEM: Where Do All the Numbers Come From?

Monday, July 11 | 2:30 p.m. - 5:30 p.m.

Speaker: Yves Rosseel





Robert Mislevy
University of Maryland,
College Park

Tuesday, July 12 | 1:30 - 2:30 p.m.

2022 Career Award for Lifetime Achievement

Further remarks on evidence and inference in educational assessment



James Balamuta
University of Illinois,
Urbana-Champaign

Tuesday, July 12 | 4:25 - 5:05 p.m.

2022 Dissertation Prize

Bayesian estimation of restricted latent class models:
Extending priors, link functions, and structural models



Ummugul Bezirhan
Boston College

Tuesday, July 12 | 4:25 - 5:05 p.m.

2022 Dissertation Prize

Conditional dependence between response time and accuracy in cognitive diagnostic models



Elizabeth Tipton
Northwestern University

Wednesday, July 13 | 1:40 - 2:40 p.m.

Keynote Speaker

Developing an evidence-base when treatment effects vary



Joshua Loftus
London School of Economics

Thursday, July 14 | 11:40 a.m. - 12:40 p.m.

Keynote Speaker

Fair algorithms, causality, and measurement



Yunxiao Chen
London School of Economics

Friday, July 15 | 2:10 - 2:55 p.m.

2022 Early Career Award

Detection of item pre-knowledge in educational testing: Latent variable models, sequential change detection and compound decision



Irini Moustaki
London School of Economics and Political Science

Friday, July 15 | 3:45 - 4:45 p.m.

2022 Presidential Address

Estimation methods for simple and complex psychometric models



Tracy Sweet
University of Maryland

Tuesday, July 12 | 9:50 - 10:35 a.m.

Latent variable models for social network data



Paolo Giordani
Sapienza University of Rome

Thursday, July 14 | 10:50 - 11:35 a.m.

Factor analysis for multi-way data



Eva Ceulemans
KU Leuven

Wednesday, July 13 | 10:50 - 11:35 a.m.

KCP-RS and statistical process control:
Flexible tools to flag changes in time series



Fan Yang Wallentin
Uppsala University

Thursday, July 14 | 10:50 - 11:35 a.m.

Structural equation modeling for
Errors-in-variables systems



Denny Borsboom
University of Amsterdam

Wednesday, July 13 | 10:50 - 11:35 a.m.

Network approaches to psychological
constructs: A review, an evaluation, and an
agenda



Michela Battauz
University of Udine

Friday, July 15 | 12:10 - 12:55 p.m.

Boosting methods for latent variable models





Patricia Martinkova
Czech Academy of Sciences and Charles University

Wednesday, July 13 | 11:40 a.m. - 12:10 p.m.

Computational aspects of reliability estimation



Jimmy de la Torre
University of Hong Kong

Friday, July 15 | 12:10 p.m. - 12:40 p.m.

CDMs that optimize the diagnostic value of multiple-choice data: Real data applications



Melanie M. Wall
New York State Psychiatric Institute and Columbia University Irving Medical Center

Wednesday, July 13 | 11:40 a.m. - 12:10 p.m.

Incorporating intersectionality using latent class analysis within health contexts



Photo Courtesy of Bologna Welcome

Graduate Student Luncheon Mixer

Tuesday, July 12 | 12:10 p.m. to 1:30 p.m.
[Scuderia \(Future Food Network Lab\) in Bologna, Italy](#)

(Piazza Giuseppe Verdi, 2, 40126 Bologna BO, Italy)

A student luncheon mixer will take place at the restaurant Scuderia. This event is exclusively for graduate students and will be hosted by the Psychometric Society. As a registered student, you are welcome to join this event for a complimentary lunch, plus have the opportunity to meet other students from around the world. An RSVP was requested to attend.

Note: Optional to meet directly at the restaurant on your own or students may also choose to meet on the ground floor of the Belmeloro Building (IMPS Registration Desk) at 12:10 p.m. to walk as a group to the venue. Group will depart to restaurant at 12:15 p.m.

Group Photo

Tuesday, July 12 | 2:30 p.m.-2:50 p.m.
Room B (First Floor, Belmeloro Building)

Immediately following the Keynote Session (Prof. Robert Mislevy) please stay seated for prompt instructions by the IMPS photographer to coordinate the annual group photo located in Room B in the Belmeloro Building. All attendees are welcome to attend. The group photo will be posted on the Society website for attendees to download after the conference.

IMPS 2022 Welcome Reception

Tuesday, July 12 | 5:30 p.m. - 7:00 p.m.
[Palazzo Poggi](#)
(Via Zamboni, 33, 40126 Bologna BO, Italy)

On Tuesday evening, July 12, we will welcome you to Bologna, Italy, at the Palazzo Poggi! Please save the date to join the Society from 5:30 p.m.-7:00 p.m. for a wonderful evening enjoying the beautiful setting with hors d'oeuvres and cocktails provided by the Psychometric Society. This event is also open to meeting attendee guests at no additional charge.

IMPS 2022 Poster Session Reception

Wednesday, July 13 | 5:20 p.m.-6:40 p.m.
University of Bologna in the Belmeloro Building (Via Beniamino Andreatta 8, Bologna BO, Italy)

The Psychometric Society invites meeting attendees and guests to explore a diverse collection of psychometric research at the Poster Session Reception.

The Poster Session Reception will be located at the Bologna University in the Belmeloro Building on the first and second floors immediately following the educational sessions.

Authors will be standing by their posters to discuss research with their peers in a casual and fun setting to include hors d'oeuvres and a cocktail reception.

[Click here](#) for the IMPS 2022 Presenter Poster Assignment Listing and Titles.

For more information on the Presenter Reminders, visit the information page for presenters [here](#).



IMPS 2022 Excursion Tour

Thursday, July 14 | 2:45 p.m. to 5:30 p.m.

[Additional Information](#)

Explore on your own or participate in the optional IMPS excursion city walking tour!

There is so much to choose from when visiting Italy that we decided to offer attendees a choice:

- exploring on your own, or
- participating in a two-and-a-half-hour walking tour of the city.



Photo Courtesy of Bologna Welcome

If you decided to join the Society and fellow conference goers, you will discover together Bologna in over two story-packed hours so you can experience the porticos, monuments, and towers of what UNESCO has defined the best-preserved medieval centre in the world.

Reminder: An RSVP was requested to attend. Guests were also welcome to attend for an additional fee. Stop at the IMPS Registration Desk to inquire about remaining available tickets at least 48 hours prior to the event.

Highlights:

- Walking tour of Bologna with an expert local guide
- See the most significant monuments
- including the Two Towers, the inner
- Courtyard of Archiginnasio, and San Petronio church
- Learn about the city's past and present

Itinerary: Meet at the IMPS Registration area in the Belmeloro Building, ground floor. Tour the University of Bologna (from outside), Due Torri (from outside), Piazza Santo Stefano, Piazza della Mercanzia, the ancient market area with shopping time, Piazza Maggiore, San Petronio church, and the Courtyard of Archiginnasio.

Tour Tip: Please plan to meet at the IMPS Registration area in the Belmeloro Building at **2:45 p.m.** to be assigned to a tour group. Each tour group will allow up to 30 attendees per tour. If you would like to be paired with your friends, please be sure to line up

together in order to be placed in the same walking tour group. We can't guarantee everyone will be paired together, but we will do our best to accommodate, especially if groups arrive together.

Note: This is a walking tour for a total of 2.5 hours. To make the excursion most enjoyable, please bring good walking shoes and clothes for dressing in layers. (Pending weather, consider also bringing an umbrella.)

Closing Conference Banquet Reception

Friday, July 15 | 6:30 p.m. - 10:30 p.m.

[Palazzo Re Enzo Historic Facility](#)

(Piazza del Nettuno, 1/C, 40125 Bologna BO, Italy)

This year's Closing Conference Banquet Reception will take place on the evening of Friday, July 15, from 6:30 p.m. - 10:30 p.m. following the last day of educational sessions. This exciting event is located at the Palazzo Re Enzo historic facility. Mark your calendar for the IMPS 2022 final banquet dinner, that features a hosted aperitivo cocktail reception, a three-course sit-down banquet dinner, and networking with your fellow attendees.

Your guest(s) is also welcome to attend the banquet for an additional fee. Stop at the Society Registration Desk to inquire at least 48 hours prior to the banquet event.

Transportation to and from the event is on your own.

Conference Venue

[The University of Bologna](#)

(Via Beniamino Andreatta 8, Bologna, Italy)

The University of Bologna (Italian: Alma Mater Studiorum — Università di Bologna, UNIBO) is a research university in Bologna, Italy. It is the oldest university in continuous operation in the world. Bologna is nestled between Venice and Florence in Northern Italy.

The IMPS 2022 venue will be located at the [Belmeloro Complex](#), a modern and dedicated facility in the heart of the University district. It is a true university town with classrooms throughout the beautiful historic city center. It offers plentiful space, as well as nearby dining possibilities. The opening, keynotes, group photo, awards, and closing talks will take place in room Aula B. The parallel session will take place in rooms Aula A, B, C, D, E, F, and G.

Special Accommodations

If you require special accommodations and/or have special dietary needs during the conference, please visit the staff located at the Registration Desk.

The main entrance to Plesso Belmeloro (Via Beniamino Andreatta 8) on the ground floor provides accessibility through lowered sidewalks near both gates; also, a secondary back entrance located at Via San Giacomo has an accessible ramp. Each building A & B of the Belmeloro is equipped with elevators on the ground floors. Please contact the conference staff before or during the conference if you need any assistance.

Stay Safe

We are excited to have you attending the IMPS 2022 in Bologna, Italy! We know that you will find this to be an enriching and fulfilling experience. To ensure the safety and security of our attendees and guests, we have composed [a list of safety tips and guideline reminders](#).

ATMs

Several ATMs are located around the Plesso Belmeloro. The closest one is at Via San Vitale 89, directly on the street (under the portico).

Local Area Emergency Information Pharmacy

The closest pharmacy to the conference building, "**Farmacia di Porta San Vitale**," is located at **Via San Vitale 126**. Additional information about pharmacies in the Bologna metropolitan area, including business hours, is [available online](#).

Hospital & Dental Care

One of the main hospitals of the city is located near Plesso Belmore, about a 20-minute walk from the conference venue. The "**Ospedale Sant'Orsola-Malpighi**" offers many emergency rooms (pediatric, obstetric, etc.) at the general admission emergency room can be found at **Via Pietro Albertoni 15**; for dental care emergencies, the hospital should be able to manage the situation. If a referral is needed, the hospital will provide specific information.



Photo Courtesy of Bologna Welcome

IMPS Registration and Informational Desk

The IMPS Conference Registration and Informational Desk will be available in the Belmeloro Building (Ground Floor) at the University of Bologna throughout the Annual Meeting, July 11 to July 15. A representative from The Rees Group (management company supporting the Society) is available to offer 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 11

9:00 a.m.-3:30 p.m.

(Short Course Workshops Day; however, the desk is available to all conference attendees.)

Tuesday, July 12

9:00 a.m.- 4:00 p.m.

Wednesday, July 13

9:00 a.m.-5:00 p.m.

Thursday, July 14

9:00 a.m. - 12:30 p.m.

Friday, July 15

9:00 a.m. - 3:00 p.m.

Name Badge Policy

Conference name badges are required for entrance to all sessions and conference events. Participants must bring their badge, as this serves as your entrance event ticket.

Thumb Drives containing the IMPS 2022 Program and Abstract Book

The Society has placed the IMPS 2022 final program, schedule-at-a-glance, and abstract PDFs on a limited number of thumb drives for “temporary use” on site. These will be located at the IMPS Registration Desk to download to your personal computer if needed.

Photography Disclosure

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

Conference Venue: Belmeloro Map

The conference program sessions and the poster session reception will take place at the University of Bologna in the Belmeloro Building. Refer to the map, located on page 13, for a particular session room, the registration area, the coffee break areas, and/or the poster session event.

Conference Attire

Business casual attire is suggested for the conference but not mandatory. Please note that the conference takes place during the summer in Italy. Typically, in July, it's the warmest month of the year. On average a high of 30°C or 86°F and a low of 20°C or 68°F. It may rain, but typically summer is the season in which the rains are less frequent. We recommend dressing appropriately to the weather and in layers.

The Belmeloro Building is air conditioned; however, keep in mind some facilities throughout Italy will not have air conditioning. Please note that the Welcome Reception facility (Palazzo Poggi Museum) does not have air conditioning. Besides the one IMPS sponsored event mentioned at the Museum and the obvious outside activities (e.g., excursion), all other IMPS events take place inside and are air conditioned.

Conference Meals and Receptions

The conference will provide morning and afternoon refreshments (i.e., beverage service) during the session breaks. During the lunch timeframe attendees will be on their own. Lunch will not be provided by the Society. Check out the mobile app for a list of restaurants near by the University area. Please refer to the Program Schedule for the exact timeline of daily break times and hosted reception events.



University Internet (Wi-Fi Access)

You will need temporary credentials to access UniBO's WiFi.

Italian regulations require that each attendee must be registered and share passport/ID numbers with local conference organizers. This will then allow use of the University Wi-Fi throughout campus and in the Belmeloro building where the educational sessions are located.

Attendees may fill out this form onsite. However, to save time and have this information immediately available in your registration materials, please complete [this form](#) now.



Attendees whose institutions adhere to Eduroam could use the local wireless network and access it with their own credentials (username and password) with no need for additional formalities through the local conference organizers.

IMPS 2022 Mobile App

The Psychometric Society has a conference mobile app for IMPS 2022.

Please download the "EXORDO" app using iTunes (AppStore) or Google Play. Once you open the app, you will need to search for the event by entering "IMPS 2022." Tap on the event and then "Join" to access the app. Complimentary Internet will be available at the University; 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.

Tourism

Bologna and the surrounding area boast numerous sites, activities, and attractions. Optional tours are offered to IMPS registrants at a 10% discount. A discount code is required when registering for these activities; Society members received the code via email, or contact the Psychometric Society National Office for it again:

info@psychometricsociety.org

[Click here](#) to view and register for optional activities and excursions that you can set up on your own.

Once you see how much Italy has to offer, you may plan to extend your stay to explore on your own or participate in one of these organized events.

If you prefer to plan a holiday on your own, please visit the [Bologna Welcome website](#), the official tourism partner of IMPS.

Book a Guided Tour & Breakfast

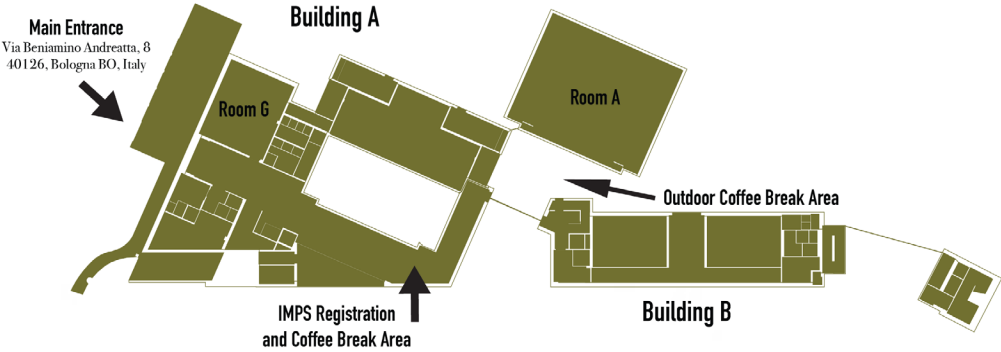
The Welcome Reception at IMPS 2022 will be at the Palazzo Poggi Museum on Tuesday, July 12, from 5:30 p.m. to 7:00 p.m. The Museum will be closed during this hosted event and no tours will be available that evening; however, the organizer Smatinee at the Museum has arranged daily morning tours during the week of IMPS. A guided tour and breakfast is available for 20 euro.

Tours will be offered from July 11–15, 2022, from 6:30 a.m. to 8:15 a.m. Attendees and their guest can book this event directly with the museum organizer. Limited seats (up to 30 people per tour) are available and this opportunity is first come, first served. To check availability and book now, [click here](#).

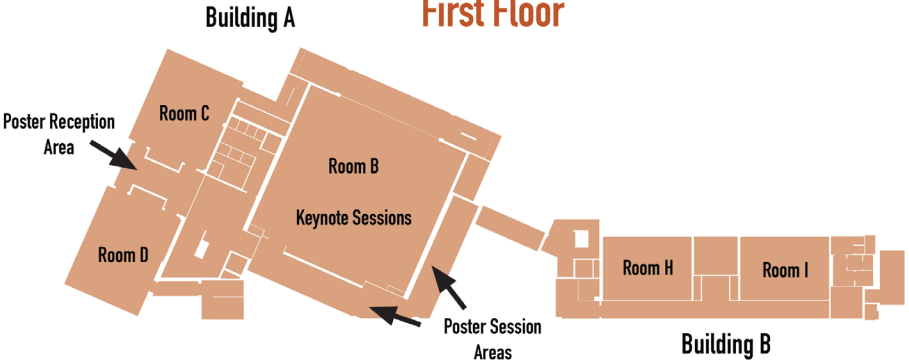
University of Bologna - Belmeloro Building

Via Beniamino Andreatta, 8, 40126, Bologna BO, Italy

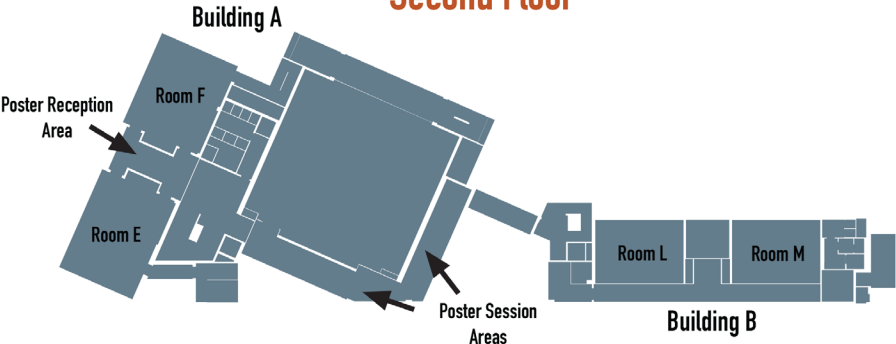
Ground Floor



First Floor



Second Floor



The Program Committee is responsible for the scientific program of the annual 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 regular 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.

Chair and 2022 Society President:

Irini Moustaki, London School of Economics & Political Science, London, United Kingdom

IMPS 2022 Program Committee:

Carolyn Anderson, University of Illinois Urbana-Champaign

Silvia Bianconcini, Bologna University

Daniel Bolt, University of Wisconsin-Madison

Silvia Cagnone, Bologna University

Yunxiao Chen, London School of Economics

Steven Culpepper, University of Illinois Urbana-Champaign

Jeff Douglas, University of Illinois Urbana-Champaign

Michael Eid, Freie Universitat Berlin

Matteo Farné, Department of Statistics, University of Bologna

Oscar Gonzalez, University of North Carolina at Chapel Hill

Fedele Pasquale Greco, Department of Statistics, University of Bologna

Qiewi (Britt) He, Educational Testing Service, Princeton, NJ

Patricia Martinkova, Institute of Computer Science of the Czech Academy of Sciences

Mariagiulia Matteucci, Department of Statistics, University of Bologna

Stefania Mignani, Department of Statistics, University of Bologna

Saverio Ranciati, Department of Statistics, University of Bologna

Mijke Rhemtulla, University of California, Davis

Victoria Savalei, University of British Columbia

Carolin Strobl, University of Zurich

Francis Tuerlinckx, KU Leuven

Jay Verkuilen, CUNY Graduate Center

Alina von Davier, Duolingo

Chun Wang, University of Washington

Marie Wiberg, Umea University

Hsiu-Ting Yu, National Chengchi University

THANK YOU

A very special extra thank you goes to our Local Organizing Committee members **Silvia Cagnone, Silvia Bianconcini, Stefania Mignani, Mariagiulia Matteucci, Fedele Pasquale Greco, Matteo Farne, and Saverio Ranciati** for all their hard work this year!

Many thanks also to the Department of Statistics at the University of Bologna, the Region Emilia Romagna, and the Welcome Bologna Convention and Visitor team for their support of IMPS 2022.

We sincerely hope you have a wonderful visit to Bologna, Italy. Thank you for joining us at IMPS 2022!

Psychometric Society

For more information about the Psychometric Society or membership, contact the Psychometric Society National Office:

Psychometric Society
2424 American Lane
Madison, WI 53704
Telephone: 608-268-4712
Fax: 608-443-2474

Email: info@psychometricsociety.org

Belmeloro Building (Ground Floor)

psychometricsociety.org/imps2022-venue

Via Beniamino Andreatta, 8, 40126 Bologna BO, Italy

Monday, July 11:

09:00 - 15:30

Tuesday, July 12:

09:00 - 16:00

Wednesday, July 13:

09:00 - 17:00

Thursday, July 14:

09:00 - 12:30

Friday, July 15:

09:00 - 15:00

Monday • July 11

Room G (Ground Floor)

Short Course #1: Analyzing NAEP and TIMSS Data with Direct Estimation Using R

Speakers: Prof. Emmanuel Sikali, Prof. Paul Bailey, & Prof. Ting Zhang

10:00 - 11:30 • Course
 11:30 - 11:50 • Coffee Break
 11:50 - 13:20 • Course
 13:20 - 14:30 • Lunch on Your Own
 14:30 - 16:00 • Course
 16:00 - 16:20 • Coffee Break
 16:20 - 17:30 • Course

Room C (First Floor)

Short Course #2: Machine Learning and Interpretable Machine Learning with R

Speakers: Prof. Carolin Strobl, Prof. Mirka Henninger, & Prof. Yannick Rothacher

10:00 - 11:30 • Course
 11:30 - 11:50 • Coffee Break
 11:50 - 13:20 • Course
 13:20 - 14:30 • Lunch on Your Own
 14:30 - 16:00 • Course
 16:00 - 16:20 • Coffee Break
 16:20 - 17:30 • Course

Room F (Second Floor)

Short Course #3: SimSEM-in-R: Simulating Structural Equation Models Using lavaan and simsem

Speakers: Prof. Terrence D. Jorgensen

10:00 - 11:30 • Course
 11:30 - 11:50 • Coffee Break
 11:50 - 13:20 • Course
 13:20 - 14:30 • Lunch on Your Own
 14:30 - 16:00 • Course
 16:00 - 16:20 • Coffee Break
 16:20 - 17:30 • Course

Full-Day Short Courses

10:00 - 17:30

Room D (First Floor)

Short Course #4: Introductory course on lavaan (AM ONLY)

Speakers: Prof. Yves Rosseel

10:00 - 11:30 • Course
 11:30 - 11:50 • Coffee Break
 11:50 - 13:20 • Course

Room E (Second Floor)

Short Course #5: Computerized Adaptive Testing and Multistage Testing with R (AM ONLY)

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

10:00 - 11:30 • Course
 11:30 - 11:50 • Coffee Break
 11:50 - 13:20 • Course

Room D (First Floor)

Short Course #6: Understanding SEM: Where do all the numbers come from? (PM ONLY)

Speakers: Prof. Yves Rosseel

14:30 - 16:00 • Course
 16:00 - 16:20 • Coffee Break
 16:20 - 17:40 • Course

Half-Day Short Courses

(AM ONLY)
 10:00 - 13:20

or

(PM ONLY)
 14:30 - 17:40

- **IMPS Coffee Breaks** are located on the Ground Floor of the Belmeloro Building near the IMPS Registration Desk area. -

09:30 - 09:45

Room B (First Floor)

Welcome

Chair: Prof. Irini Moustaki, Prof. Silvia Cagnone, Prof. Marilena Pillati, and Prof. Carlo Trivisano

09:50 - 10:35

Room B (First Floor)

Invited Talk: WITHDRAWN

Room A (Ground Floor)

Invited Talk: Dr. Tracy Sweet
Latent variable models for social network data
 Chair: Dr. Edgar Merkle

10:35 - 10:55

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

Coffee Break

10:55 - 12:10

Room B (First Floor)

Symposium: New lights on dynamic models for intensive time series and panel data
 Chair: Dr. Janne Adolf

Improved estimation of autoregressive models through contextual impulses and robust modeling
 Dr. Janne Adolf

Including context and serial dependence in regression models of time series
 Mr. Sigert Ariens

Dynamics in large scale online learning
 Dr. Charles Driver

Mixture multilevel vector-autoregressive modeling
 Dr. Anja Ernst

Room A (Ground Floor)

Symposium: Measuring the moment: Psychometric considerations and applications
 Chair: Ms. Leonie Cloos

Latent Markov factor analysis for evaluating measurement model differences in intensive longitudinal data
 Dr. Leonie Vogelsmeier

Evaluating dynamics in affect measurement with latent Markov factor analysis
 Ms. Leonie Cloos

Manageable intensive longitudinal measurement(?)
 Dr. Joran Jongerling

Assessing the reliability of single-item momentary mood measurements in experience sampling
 Prof. Francis Tuerlinckx

Room C (First Floor)

Symposium: Connecting Knowledge Space Theory to other formal theories
 Chair: Dr. Debora de Chiusole

Regularized parameter estimation for probabilistic knowledge structures
 Prof. Matthias Gondan

On the identifiability of 3 and 4 parameters Item Response Theory models from the perspective of Knowledge Space Theory
 Dr. Stefano Noventa

Constructing, improving, and shortening tests with Competence-Based Test Development methodology
 Dr. Pasquale Anselmi

A competence-based knowledge space theory learning platform for promoting quantitative thinking in higher education
 Dr. Andrea Brancaccio

Modeling preference with the basic local independence model
 Dr. Debora de Chiusole

Room D (First Floor)

Symposium: Advances in use of response process data in measurement
 Chair: Dr. Kadriye Ercikan

Understanding Students' test engagement for feedback
 Dr. Hongwen Guo

Examining numeric sequence similarity measures with dynamic time warping method
 Dr. Qiwei He

Psychometric considerations for the joint modeling of response and process data
 Dr. Matt Johnson

Modeling student problem solving behavior using mixed types of response process data
 Dr. Caitlin Tenison

A speed-accuracy response model with conditional dependence
 Dr. Peter van Rijn

Room G (Ground Floor)

Session: Meta Analysis
 Chair: Dr. Dmitry Beov

Estimating effect heterogeneity in rare events meta-analysis with nonparametric mixture models
 Ms. Katrin Jansen

Synthesizing research on complex sampling surveys: Two-stage meta-analysis with individual participant data
 Mr. Diego Campos

Checking the inventory: Currently available methods for raw data MASEM
 Mr. Lennert Groot

Dependent effect sizes in MASEM: The current state of affairs
 Ms. Zeynep Bilici

Using meta-analytic structural equation modeling to synthesize randomized controlled trials
 Ms. Hannelies de Jonge

Room E (Second Floor)

Session: Causal Inference I
 Chair: Prof. Wicher Bergsma

Propensity score analysis with latent variables: Choices of factor scores and data mining methods
 Dr. Ge Jiang

Bayesian mediation analysis with power prior distributions
 Dr. Milica Miocevic

Synthesizing data from pretest-posttest-control-group designs in meta-analyses of mediating mechanisms
 Ms. Zhiming Lu

**TUESDAY
CONTINUED
12:10 - 13:30**

On Your Own

Attendee Lunch

Restaurant: Scuderia

Graduate Student Luncheon Mixer

scuderia.futurefood.network

Piazza Giuseppe Verdi, 2, 40126 Bologna BO, Italy

This event is exclusively for graduate students and will be hosted by the Psychometric Society

13:30 - 14:30

Room B (First Floor)

Keynote: Prof. Robert Mislevy
Further remarks on evidence and inference in educational assessment

Chair: Prof. Alina von Davier

14:30 - 14:50

Room B (First Floor)

IMPS 2022 Group Photo

All attendees welcome!

14:50 - 16:05

Room B (First Floor)

Symposium: Advances in using response times for understanding between- person differences and within-person changes in test-takers' behavior

Chair: Prof. Steffi Pohl and Ms. Esther Ulitzsch

What changes in Diffusion IRT model parameters can tell us about the speed-accuracy tradeoff
Mr. Tobias Alferts

A sequential Bayesian changepoint detection procedure for aberrant behaviors in computerized testing
Dr. Jing Lu

Using item response times to explain group differences in item parameter
Dr. Dylan Molenaar

Modeling the process underlying solution and non-solution behavior with a non-linear ballistic accumulator model
Mr. Sören Much

SAT in psychometric assessments: a latent growth approach
Mr. Augustin Mutak

Room A (Ground Floor)

Symposium: Information warfare: quantitative methods to understand online manipulation campaigns

Chair: Dr. Hudson Golino

Playing HAVOK with the chaos caused by internet trolls
Ms. Elena Martynova

Dynamic exploratory graph analysis: Russian trolls and the US elections
Dr. Hudson Golino

Metric invariance: Differences between Left and Right-wing Russian trolls and the US elections
Ms. Laura Jamison

Room C (First Floor)

Symposium: Advances in methods for sample size determination in the social sciences

Dr. Ginette Lafit

A general Monte Carlo method for sample size analysis in the context of network models
Mr. Mihai Constantin

Power analysis methods for mediation and moderated mediation models
Ms. Jessica Fossum

Fast power computations in multilevel models for intensive longitudinal designs
Dr. Ginette Lafit

Predictive accuracy analysis: A new sample size planning method
Mr. Jordan Revol

Room D (First Floor)

Session: Bayesian SEM

Chair: Dr. Matt Johnson

A simple method for handling reflective invariance in Bayesian IRT
Mr. Keishi Nomura

Bayesian evaluation of approximate measurement invariance
Ms. Dandan Tang

How does prior variance affect local dependence detection in CFA
Ms. Xinyu Qiao

BSEM modification indices: missed parameters and how to find them
Dr. Mauricio Garnier-Villarreal

An iterative approach to flexible multivariate prior elicitation
Ms. Sydne McCluskey

Room G (Ground Floor)

Session: Large-scale assessments

Chair: Dr. Yunxiao Chen

Evaluation of common items using DIF on longitudinal TIMSS datasets
Dr. Youn-Jeng Choi

Concordance for large scale assessments
Dr. Liqun Yin

Consequences of hierarchical data structures for the estimation of plausible values
Ms. Eva Zink

Motivation towards mathematics from 1980 to 2015: Exploring the feasibility of longitudinal scaling
Ms. Erika Majoros

Bayesian dynamic borrowing with longitudinal large-scale assessment data
Prof. David Kaplan

Room E (Second Floor)

Session: Rater Models and Related Topics

Chair: Dr. Patricia Martinkova

Latent thresholds in classification tasks: A novel statistical model
Mr. Giuseppe Mignemi

Optimal weights for compound scores derived from multiple raters
Prof. Cees Glas

Examining rater bias using IRT cross-classified multilevel modeling
Dr. Igor Himelfarb

Evaluating quality of selection procedures in a binary classification framework: An alternative to inter-rater reliability
Mr. František Bartoš

A simulation-based test to investigate interrater agreement for binary time series
Dr. Nadja Bodner

Room F (Second Floor)

Session: Dynamic SEM

Chair: Dr. Joran Jongerling

Individual dynamic models using regularized hybrid unified structural equation modeling
Ms. Ai Ye

Forecasting university student drop out in math with ILD
Prof. Augustin Kelava

Early response to treatment in anorexia nervosa: A dynamic study
Mrs. Nuria Real-Brioso

The growth components approach: Recent developments, extensions, and applications
Prof. Axel Mayer

**TUESDAY
CONTINUED
16:05 - 16:25**

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

Coffee Break

16:25 - 17:05

Room B (First Floor)

Dissertation Prize: Prof. James Balamuta
**Bayesian estimation of restricted latent class models: Extending priors,
link functions and structural models**
Chair: Prof. David Kaplan

Room A (Ground Floor)

Dissertation Prize: Prof. Ummugul Berzihan
Conditional dependence between response time and accuracy in cognitive diagnostic models
Chair: Prof. Terry Ackerman

17:30 - 19:00

Palazzo Poggi Museum

IMPS Welcome Reception
sma.unibo.it/it/il-sistema-museale/museo-di-palazzo-poggi
Via Zamboni, 33, 40126 Bologna BO, Italy
All attendees and guests are welcome!

Photo Courtesy of Anastasia Zhenina



09:15 - 10:30

Room B (First Floor)

Symposium: Beyond VAR: New developments in modeling psychological time series
Chair: Dr. Oisín Ryan

Inference with cross-lagged effects -- Problems in time and new interpretations
Dr. Charles Driver

Mapping modality in emotion time series
Dr. Jonas Haslbeck

Machine learning for clustering ecological momentary assessment time-series data
Ms. Mandani Ntekouli

Equilibrium causal models: Connecting dynamical systems and cross-sectional data
Dr. Oisín Ryan

Room A (Ground Floor)

Symposium: Model based approaches to detecting item level non-compliant response behavior
Chair: Mr. Patrick Schmidt

Non-compliant survey responding: An IRTree model for dynamically changing response strategies
Mrs. Viola Merhof

A Bayesian latent class approach for the detection of automated survey responses
Dr. Zachary Roman

Experimental evidence for a dynamic latent class model of non-compliance
Mr. Patrick Schmidt

An explanatory mixture IRT model for careless and insufficient effort responding in self-report measures
Ms. Esther Ulitzsch

Room C (First Floor)

Symposium: Tackling challenges in analyzing intensive longitudinal data
Chair: Ms. Sophie Berkhout

Statistical techniques for analyzing dyadic interactions
Ms. Sophie Berkhout

It's all about timing: Exploring the consequences of choosing different temporal resolutions for analyzing passive measures
Mrs. Anna Langener

Feasibility of personalized network models: Statistical power and missing data
Ms. Alessandra Mansueto

Prospectively detecting mean and variance changes through statistical process control
Ms. Evelien Schat

Assessing Bayesian fit of an Item Response Theory model for psychological time series
Mr. Sebastian Castro-Alvarez

Room D (First Floor)

Session: IRT I
Chair: Dr. Marieke van Onna

Permutation-based generalizable profile analysis for explaining DIF using item features
Dr. Jesper Tijmstra

Detection of differential item functioning using residuals from item trace lines
Mr. Youngjin Han

Proposing an EIRT approach that includes linguistic characteristics of items
Ms. Magdalen Beiting-Parrish

Agreement among DIF detection algorithms: A multiverse analysis
Dr. Veronica Cole

The gradient test in a conditional likelihood framework
Mr. Andreas Kurz

Room G (Ground Floor)

Session: Outlier Detection
Chair: Prof. Jimmy de la Torre

Two-way outlier detection for item response data
Dr. Gabriel Wallin

Forward search for IRT estimation and for atypical responses detection
Mrs. Anna Comotti

A robust item fit assessment
Dr. Ummugul Bezirhan

Person misfit and person reliability in rating scale measures: The role of response styles
Ms. Tongtong Zou

Detecting aberrant behaviors of test-takers with hierarchical IRT-based response times models
Dr. Burhanettin Ozdemir

Room E (Second Floor)

Session: Measurement Invariance
Chair: Prof. Carolin Strobl

Bayesian Region of Measurement Equivalence (ROME) approach with alignment
Dr. Mark Hok Chio Lai

Finding clusterwise measurement invariance with mixture multigroup factor analysis
Dr. Kim De Roover

A new Bayesian method for investigating, quantifying, and visualizing measurement invariance
Mr. Miljan Jovic

A systematic review of measurement invariance research of the CES-D across gender: calculation and report of effect size
Mr. Gengrui Zhang

The effect of acquiescence bias on measurement invariance testing
Mr. Damiano D'Urso

Room F (Second Floor)

Session: Causal Inference II
Chair: Dr. Milica Miočević

Machine learning methods for propensity score estimation in hierarchical data
Ms. Marie Salditt

Beyond the mean: A flexible framework for studying causal effects using linear models
Dr. Christian Gische

Estimating latent baseline-by-treatment interactions in statistical mediation analysis
Dr. Oscar Gonzalez

Causal inference in latent class analysis in the presence of differential item functioning
Mr. Felix Clouth

Fully latent principal stratification: combining PS with model-based measurement models
Mr. Sooyong Lee

10:30 - 10:50

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

Coffee Break

10:50 - 11:35

Room B (First Floor)

Invited Speaker: Prof. Eva Ceulemans
KCP-RS and statistical process control: Flexible tools to flag changes in time series
Chair: Dr. Silvia Bianconcini

Room A (Ground Floor)

Invited Speaker: Prof. Denny Borsboom
Network approaches to psychological constructs: A review, an evaluation, and an agenda
Chair: Dr. Mijke Rhemtulla

**WEDNESDAY
CONTINUED
11:40 - 12:10**

Room B (First Floor)

Spotlight Talk: Prof. Patricia Martinkova
Computational aspects of reliability estimation
Chair: Dr. Stefano Noventa

Room A (Ground Floor)

Spotlight Talk: Prof. Melanie Wall
Incorporating intersectionality using latent class analysis within health contexts
Chair: Prof. Steffi Pohl

12:10 - 13:40

On Your Own

Attendee Lunch

13:40 - 14:40

Room B (First Floor)

Keynote: Prof. Elizabeth Tipton
Developing an evidence-base when treatment effects vary
Chair: Prof. Irimi Moustaki

Room B (First Floor)

Symposium: Psychometrics for adaptive learning environments
Chair: Dr. Abe Hofman

Steering player behavior in adaptive learning environments
Dr. Abe Hofman

A decade of psychometric optimisation in Prowise Learn
Dr. Joost Kruis

Tracing students' systematic errors in large-scale online multiplication practice
Dr. Alexander Savi

Urnings: meet your digital twin
Dr. G.K.J. Maris

Room A (Ground Floor)

Session: Classification
Chair: Dr. David Torres Iribarra

Rectangular latent Markov modeling for advising students in self-learning platforms
Ms. Rosa Fabbriatore

A modified method to balance attribute coverage in CD-CAT
Dr. Chia-Ling Hsu

Evaluate the mastery of learning objectives
Dr. Anton Béguin

E-ReMI: Extended maximal interaction two-mode clustering
Dr. Alberto Cassese

Room C (First Floor)

Session: Intensive Longitudinal Data
Chair: Dr. Charles Driver

Consequences of sampling frequency for estimating dynamics in continuous time models
Mr. Rohit Batra

Dynamic conditional network models for intensive repeated data
Dr. Philippe Rast

Modelling agreement for intensive longitudinal binary data
Dr. Sophie Vanbelle

Using time-varying dynamic parameters to improve prediction of future outcomes
Ms. Simran Johal

14:45 - 16:00

Room D (First Floor)

Session: Factor Analysis
Chair: Dr. Shaobo Jin

Machine-learning-based factor retention – the Comparison Data Forest
Prof. David Goretzko

Rotation to sparse loadings using Lp functions
Ms. Xinyi Liu

The current state of LASSO-penalization within CML-estimation for IRT-models
Mr. Can Gürer

Matched-pair binary item response analysis using Bayesian adaptive Lasso factor model
Prof. Edward Ip

Room G (Ground Floor)

Session: Test Equating
Chair: Prof. Marie Wiberg

Data-driven direct consensus standard setting without IRT
Dr. Marieke van Onna

Parameter Identifiability of the linear equating transformation under the NEAT design
Dr. Jorge González

FDA meets IRT
Prof. James Ramsay

A framework to quantify overall errors in equated scale scores
Dr. Stella Kim

Comparing presmoothing methods for kernel equating with mixed-format tests
Mr. Joakim Wallmark

Room E (Second Floor)

Session: Bayesian Methods
Chair: Dr. Fedele Greco

Priors in Bayesian estimation under the three-parameter model
Prof. Seock-Ho Kim

Model-based missing data handling for composites with missing items
Ms. Egamaría Alacam

Bayesian prior specification and model fitting propensity
Dr. Sonja Winter

Variable selection with missing data
Prof. Sierra Bainter

Evaluating item parameter drift for Bayesian longitudinal item response theory models
Dr. Allison Boykin

Room F (Second Floor)

Session: Estimation
Chair: Prof. Alberto Maydeu-Olivares

Efficient marginal maximum likelihood estimation of longitudinal latent variable models
Dr. Björn Andersson

A deep learning approach for estimating response time models
Dr. Rudolf Debelak

Estimating and using block information in the Thurstonian IRT Model
Dr. Susanne Frick

Unbiased distribution free estimator in SEM
Dr. Han Du

**WEDNESDAY
CONTINUED
16:00 - 16:20**

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

Coffee Break

Room B (First Floor)

Symposium: Advanced methods to explore individual differences

Chair: Dr. Sara Garofalo and Prof. Livio Finos

Generalized Procrustes problem allows to estimate subject-specific functional connectivity in fMRI data

Ms. Angela Andreella

Unbiased methods to study interindividual variability using multilayer brain networks

Dr. Simone Di Plinio

Unsupervised and supervised learning algorithms for accurate classification of cognitive profiles

Mr. Matteo Orsoni

Room A (Ground Floor)

Symposium: New strategies for dimensionality analysis using exploratory graph analysis

Chair: Dr. Hudson Golino

Testing the structure of network communities using the total entropy fit permutation test

Dr. Hudson Golino

A Bayesian approach for dimensionality assessment in network psychometrics

Dr. Dingjing Shi

Optimizing Walktrap's community detection in networks using the total entropy fit index

Ms. Laura Jamison

Room C (First Floor)

Session: Multilevel Modelling and Factor Analysis

Chair: Dr. Matteo Farnè

Modeling cluster-level constructs with individual-level measures

Dr. Suzanne Jak

Nonparametric IRT models for two-level test data

Ms. Letty Koopman

Multilevel X-Learner: Extending meta-learners for causal inference with clustered data

Prof. Jee-Seon Kim

16:20 - 17:20

Room D (First Floor)

Session: IRT and Computerized Tests

Chair: Dr. Björn Andersson

A module selection between subtests for improving measurement precision in multidimensional multistage testing

Dr. Chia-Wen Chen

Matthew effects and metric distortions due to measurement model misspecification

Ms. Xiangyi Liao

Effect of matching/weighting equating samples during the pandemic

Dr. Kyoungwon Bishop

The use of factor scores in linking depression scales

Ms. Nika Zahedi

Room G (Ground Floor)

Session: Network Psychometrics

Chair: Prof. Denny Borsboom

Theories and applications of centrality measures in psychometric network analysis

Dr. Hsiu-Ting Yu

Bayesian analysis of a Markov random field for ordinal variables

Dr. Maarten Marsman

Detecting redundant items for the purpose of network modeling

Mr. Joshua Starr

Room E (Second Floor)

Session: Estimation of Latent Traits

Chair: Prof. Claus H. Carstensen

Targeting toward inferential goals in Bayesian nonparametric Rasch models

Prof. JoonHo Lee

Statistical scoring rules in person parameter inference: Some general pitfalls

Dr. Pascal Jordan

Estimation and use of ability distributions

Dr. Won-Chan Lee

Assessing students' abilities: A hybrid archetypal analysis and IRT approach

Dr. Lucio Palazzo

Room F (Second Floor)

Session: Neural Networks

Chair: Prof. Silvia Cagnone

Predicting IRT 3PL parameters via a neural network model

Dr. Dmitry Belov

Deep learning generalized structured component analysis: A knowledge-based nonlinear multivariate predictive method

Mr. Gyeongcheol Cho

Improving measurement models using deep neural networks

Prof. Artur Pokropek

PowerGraph: Using neural networks and principal components to determine multivariate statistical power trade-offs

Mr. Ajinkya Mulay

17:20 - 18:40

Belmeloro Building - Refer to Map: First & Second Floor

Poster Session Reception

[View the Poster List](#)

Presenters will be standing by their posters in a casual and fun setting to include hors d'oeuvres and a cocktail reception.

Room B (First Floor)

Symposium: Statistical methods for the analysis of complex data structures

Chair: Prof. Angela Montanari

Predictor selection for high-dimensional regression via random projection ensembles

Dr. Matteo Farnè

Bayesian inference for mixed models with log-transformed response

Dr. Aldo Gardini

Detecting latent variable non-normality through the generalized Hausman test

Ms. Lucia Guastadisegni

Fully symmetric graphical lasso for dependent data

Dr. Saverio Ranciati

Room A (Ground Floor)

Session: IRT II

Chair: Prof. Cees Glas

A mixture model for discriminating responses affected by response styles and content-driven preferences

Prof. Sabrina Giordano

New flexible item response models for dichotomous response with applications

Dr. Jorge Bazán

Methodological issues in the IRT modeling of recognition task data

Prof. Daniel Bolt

A dynamical framework for the derivation of cumulative response models

Dr. Yvonnick Noel

Correcting for extreme response style with IRT: Model choice matters

Mr. Martijn Schoenmakers

Room C (First Floor)

Session: Longitudinal Data

Chair: Prof. Eva Ceulemans

Difference score methods for time-varying covariates in latent transition analysis

Dr. Paul Scott

How and why apply Mokken Scaling to Longitudinal Data?

Prof. Claus H. Carstensen

Controlling for cohort effects using a latent change score model with moderators

Mr. Pablo F. Cáncer

Momentary profile similarity measures for multivariate dyadic time series

Ms. Chiara Carlier

09:15 - 10:30

Room D (First Floor)

Session: Computerized Based Testing

Chair: Dr. Qiwei He

Optimizing multistage adaptive testing designs for international large-scale assessments

Dr. Usama Ali

Adjusted residuals for evaluating conditional independence in IRT models for multistage adaptive testing

Dr. Peter van Rijn

Using unrestricted latent class model to estimate the density of item-score vectors: Towards a flexible computerized adaptive test

Mr. Anastasios Psychogiopoulos

Useful and proper distractors for multiple choice items in cognitive diagnosis

Prof. Hans Friedrich Koehn

Room G (Ground Floor)

Session: Validity and Reliability

Chair: Dr. Anna Brown

Toward a Quantifiable Definition of Validity

Dr. Mijke Rhemtulla

Adjusting scores for systematic bias using additivity analysis

Dr. Joseph Grochowalski

How to estimate ICCs for interrater reliability from incomplete designs

Ms. Debby ten Hove

More on having and eating one's cake: Why modern measurement theory is a poor recipe for preparing predictive tests

Dr. Niels Smits

Resolving the test fairness paradox by reconciling predictive and measurement invariance

Dr. Safir Yousfi

Room E (Second Floor)

Session: Process Data

Chair: Dr. Dylan Molenaar

Supervised multidimensional scaling for process data

Ms. Ling Chen

Enhancing latent models of rapid-guessing with additional process data indicators

Ms. Jana Welling

Employing process-data indices to account for response biases in questionnaire data

Dr. Marek Muszyński

Bayesian joint modeling of response accuracy and real-time emotions

Prof. Yurou Wang

Room F (Second Floor)

Statistical Learning

Chair: Dr. Oscar Gonzalez

Introduce confusion matrix to model evaluation in quantitative psychology

Mr. Yongtian Cheng

A simulation study comparing the use of supervised machine learning variable selection methods in the psychological sciences

Ms. Catherine Bain

A critical view on interpretation techniques for machine learning methods

Dr. Mirka Henninger

Utilizing machine learning for simulation-based design optimization

Mr. Felix Zimmer

GeneticPower: A genetic algorithm-based framework for learning statistical power manifold

Mr. Abhishek Kumar Umrawal

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

10:30 - 10:50

Coffee Break

**THURSDAY
CONTINUED
10:50 - 11:35**

Room B (First Floor)

Invited Speaker: Prof. Fan Yang Wallentin
Structural equation modeling for Errors-in-variables systems
Chair: Prof. Edward Ip

Room A (Ground Floor)

Invited Speaker: Prof. Paolo Giordani
Factor analysis for multi-way data
Chair: Dr. Qiwei He

11:40 - 12:40

Room B (First Floor)

Keynote: Prof. Joshua Loftus
Fair algorithms, causality, and measurement
Chair: Prof. Jee-Seon Kim

12:45 - 14:45

On Your Own

Attendee Lunch

14:45 - 17:30

Belmeloro Building - Registration Area (Ground Floor)

IMPS 2022 Group Excursion Walking Tour



Room B (First Floor)

Session: Applications I
Chair: Prof. Sabrina Giordano

Analyzing clinical scales using full information optimal scoring
Dr. Juan Li

How about ... no? – Using missing responses and response times to model avoidance behavior
Mr. Nico Remmert

Conditional standard errors of measurement for math modelling assessments
Dr. Celil Ekici

Measuring digital competence internationally: Exploring test dimensionality, position effect and performance differences
Dr. Yuan-Ling Liaw

The effects of the COVID-19 pandemic on the mental health of elderly people
Prof. Francesco Scalone

Room A (Ground Floor)

Session: Latent Variable Models and Estimation
Chair: Prof. Francis Tuerlinckx

Generalised additive latent variable models for location, shape, and scale
Mr. Camilo Cardenas

A Dirichlet response model for the dual-range slider item format
Mr. Matthias Kloft

Modeling measurement error in latent space modeling
Dr. Tracy Sweet

Model implied instrumental variable approach in structural equation modeling with frequentist model averaging
Dr. Shaobo Jin

Fast estimation of generalized linear latent variable models: Thinking out of the box
Prof. Maria-Pia Victoria Feser

Room C (First Floor)

Session: Model Fit
Chair: Dr. Ting Wang

Selecting interaction effects in additive models using I-priors
Prof. Wicher Bergsma

Goodness of fit testing of SEM models in cross-validation samples
Prof. Alberto Maydeu-Olivares

Cross-validation indices for factor model scoring
Mr. Siyuan Marco Chen

Beyond Pearson's Correlation: General Association Tests for Psychological Research
Dr. Julian Karch

Testing Correlations by Using Fisher's z Transformation and Bootstrapping
Dr. Zhenqiu Lu

09:15 - 10:30

Room D (First Floor)

Session: Growth Curve Models
Chair: Prof. Vassilis Vasdekis

Performance of covariate-informed factor scores in bivariate latent growth models
Dr. Alexis Georgeson

Using bootstrap to test changes in growth curve models with non-normal data
Ms. Stefany Mena

Confidence interval of effect size measures in longitudinal growth models
Ms. Zonggui Li

Room G (Ground Floor)

Session: IRT III
Chair: Dr. Will Belzak

Effects of item specific factors on sequential/IRT model applications
Mr. Weicong Lyu

A historical perspective on polytomous unfolding models
Ms. Ye Yuan

Analyzing spatial responses: A comparison of IRT-based approaches
Prof. Amanda Luby

Random effects and extended generalized partial credit models
Dr. David Hessen

Room E (Second Floor)

Session: Aberrant Test Behaviors
Chair: Prof. Andries van der Ark

An algorithm to detect bots in a Likert-type questionnaire
Mr. Michael John Ilagan

A statistical test for the detection of item compromise based on responses and response times
Prof. Wim J. van der Linden

Using item scores and distractors to detect test speededness
Ms. Kylie Gorney

Room F (Second Floor)

Session: Regressions Methods and Applications
Chair: Prof. Melanie Wall

Using Information-Theoretic ideas to improve the interpretation of generalized linear and nonlinear exponential family models
Prof. Jay Verkuilen

Monotonic proportional odds cumulative logit regression with ordinal predictors and an ordinal response
Prof. Christian Hennig

A global assessment of the predictive capacity of selection tests in partially observed populations
Dr. Eduardo Alarcón-Bustamante

Handling low quality responses in regression analyses: A simulation study
Dr. Nivedita Bhaktha

Bidimensional latent regression Item Response Models for the assessment of financial knowledge in presence of don't know responses
Prof. Silvia Bacci

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

10:30 - 10:50

Coffee Break

FRIDAY
CONTINUED
10:50 - 12:05

Room B (First Floor)

Session: Datathon Session

Chair: Dr. Abe Hofman

For more Datathon Session details, visit
psychometricsociety.org/imps2022-datathon

Room A (Ground Floor)

Session: SEM

Chair: Prof. Fan Yang Wallentin

Deriving expected SEM parameters when treating discrete data as continuous

Dr. Terrence Jorgensen

Accounting for uncertainty to remedy two-stage structural fit indices

Dr. Graham Rifenbark

Incorporating stability information into cross-sectional estimates

Ms. Anna Wysocki

Sensitivity analysis of weighted composites in path analysis using partial least squares

Dr. Ke-Hai Yuan

Room C (First Floor)

Session: Applications II

Chair: Prof. Stefania Mignani

Formalised models of handwriting as a nonverbal instrument and their psychometric properties

Dr. Yury Chernov

Continuation ratio model for polytomous items with a censored like latent class

Dr. Diego Carrasco

The case of the cracked paintings. What cracks in paintings can tell us about their origins

Prof. Pieter M. Kroonenberg

Assessing remote proctors of high-stakes tests: Improving consistency in proctoring decisions

Dr. Will Belzak

Getting the most out of Electroretinogram (ERG) Data: A methodological review and recommended statistical and machine-learning models

Dr. Sunmee Kim

Room D (First Floor)

Session: Classification

Chair: Prof. Christian Hennig

Dependent latent class models

Mr. Jesse Bowers

MISSION: a Mixture model for Subject by Situation Interaction in binary data

Dr. Jan Schepers

A new perspective on norming psychological tests

Prof. Andries van der Ark

Mixture multigroup SEM for comparing structural relations among many groups

Mr. Andres Felipe Perez Alonso

When almost all items are endorsed: Extreme responses or substantive classes?

Dr. David Torres Iribarra

Room G (Ground Floor)

Session: Test Equating II

Chair: Dr. Gabriel Wallin

Effect of direction of dif and group ability differences on multidimensional equating

Dr. Secil Ugurlu

Sample size calculation and optimal design for regression-based test norming

Dr. Francesco Innocenti

Evolutionary IRT scale maintenance via concurrent calibration designs

Dr. Richard Luecht

Does it matter which test scores are used when equating test scores?

Prof. Marie Wiberg

Room E (Second Floor)

Session: IRT IV

Chair: Ummugul Berzihan

"Proportions-of-total" ipsative data: Ratio or ordinal?

Dr. Anna Brown

Culture-specific faking: Adverse impact on forced-choice personality scores

Dr. HyeSun Lee

Peabody quadruplets for forced-choice items

Dr. Felipe Valentini

Measuring susceptibility with multidimensional zero-inflated and hurdle graded response models

Dr. Brooke Magnus

Application of a new multilevel item response theory model with a latent interaction effect

Dr. Tim Fabian Schaffland

Room F (Second Floor)

Session: Statistics and Psychometrics

Chair: Prof. Maria-Pia Victoria Feser

Improving psychological explanations

Dr. Noah van Dongen

Considerations in group differences in missing values

Ms. Ambar Kleinbort

The Clique Percolation performance to detect cross-loadings across latent factors

Dr. Pedro Henrique Ribeiro Santiago

Incorporating information from historical data for power analysis: A hybrid classical-Bayesian approach for multilevel studies

Ms. Winnie Wing-Yee Tse

Exploratory factor analysis trees: Detecting measurement invariance between multiple covariates

Mr. Philipp Sterner

Room B (First Floor)

Invited Speaker: Prof. Michela Battauz
Boosting methods for latent variable models

Chair: Prof. Marie Wiberg

Room A (Ground Floor)

Spotlight Talk: Dr. Jimmy de la Torre
CDMs that optimize the diagnostic value of multiple-choice data: Real data applications

Chair: Dr. Jorge Bazan

On Your Own

Attendee Lunch

12:55 - 14:10

**FRIDAY
CONTINUED
14:10 - 14:55**

Room B (First Floor)

Early Career Award: Dr. Yunxiao Chen
**Detection of item preknowledge in educational testing: Latent variable models, sequential
change detection and compound decision**
Chair: Prof. Daniel Bolt

14:55 - 15:25

Room B (First Floor)

Meeting of Members
Chairs: Prof. Carolyn Anderson & Prof. Irini Moustaki

15:25 - 15:45

Two Locations - Refer to Map: Near IMPS Registration (Ground Floor); Outside area between Buildings A & B (Ground Floor)

Coffee Break

15:45 - 16:45

Room B (First Floor)

Presidential Address: Prof. Irini Moustaki
Estimation methods for simple and complex psychometric models
Chair: Prof. Carolyn Anderson

16:45 - 17:30

Room B (First Floor)

Awards and Closing Ceremony
Chairs: Prof. Carolyn Anderson & Prof. Irini Moustaki

18:30 - 22:30

Palazzo Re Enzo

IMPS Closing Banquet Reception
palazzoreenzo.com
Piazza del Nettuno, 1/C, 40125 Bologna BO, Italy



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