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Dear Attendees and Guests,

We are pleased to welcome you to IMPS 2023, the 88th Annual Meeting of the Psychometric Society, held at the University of Maryland in College Park. This marks the first time the meeting has been held in the United States since 2018 and we on the local organizing committee hope that it will be a very pleasant and enriching experience for all of you.

The University of Maryland (UMD) is the state’s flagship university and a leading public research institution, propelled by a $1.3 billion joint research enterprise. Located four miles from Washington, D.C., the university is dedicated to addressing the grand challenges of our time and is the nation’s first Do Good Campus. It is driven by a diverse and proudly inclusive community of more than 50,000 fearless Terrapins. UMD is a top producer of Fulbright scholars and offers an unparalleled student experience with more than 300 academic programs, 25 living-learning programs, and 400 study abroad programs. Spurred by a culture of innovation and creativity, UMD faculty are global leaders in their field and include Nobel laureates, Pulitzer Prize winners, and members of the national academies.

UMD’s Department of Human Development and Quantitative Methodology (HDQM), located in the College of Education, is one of the world’s leading centers for research on child and adolescent development, educational psychology, and cutting-edge psychometric and statistical methods. In addition to hosting IMPS 2023, The Quantitative Methodology: Measurement and Statistics (QMMS) program is widely recognized as being among the best programs in the country with exceptional students trained by faculty who are leaders within their research areas. The M.S. program gives individuals the broad range of skills necessary to serve as research associates in academic, government, education and business settings; while the Ph.D. program qualifies individuals to provide leadership in the conduct of research studies, to serve as applied statisticians, measurement, or evaluation specialists in school systems, industry, and government, and to teach quantitative courses at the collegiate level. The program also strongly supports students with an interest in an academic career as methodologist, statistician, or psychometrician.

The meeting starts with three parallel short courses on Monday, July 24. A graduate student mixer at The Hotel at the University of Maryland will be held Monday evening from 6:30 pm-8:30 pm. The main meeting then runs from Tuesday, July 25, to Friday, July 28. The meeting’s opening and welcome will be on Tuesday at 9:00 am in the Colony Ballroom of the Adele H. Stamp Student Union. At 5:30 pm, the Welcome Reception will take place at The Hotel at the University of Maryland. The business portion of the meeting will conclude on Friday with the awards ceremony that is scheduled to end at 12:45 pm and directly follows the meeting of the members which begins at 11:30 am. We are especially excited to conclude the week with an excursion to the Spy Museum in Washington D.C., which will include food and drinks.

We are pleased to have a complete program featuring eminent keynote and invited speakers with topics spanning many areas of psychometrics. The College Park area has much to offer, within both the beautiful University of Maryland campus and the surrounding area which includes Washington, D.C. We have left time between the meeting and the Spy Museum excursion for those who wish to enjoy the many attractions that are available. We are thrilled that we can continue in-person meetings after a highly successful IMPS 2022, and we are confident IMPS 2023 will foster stimulating conversations and provide attendees and guests with a wonderful experience. Best wishes on a very satisfying meeting and thank you for joining us.

Jeff Douglas, University of Illinois Urbana-Champaign
President & Organizing Committee Chair

Hong Jiao, University of Maryland (Meeting Host Site)
Qiwei (Britt) He, Educational Testing Service
Frank Rijmen, Cambium Assessment
Local Organizing Committee
Short Course #1:  
**From Collecting Log-data to Analyzing Process Indicators with logLime R Package**  
Monday, July 24, 2023 | 9:00 a.m. - 5:00 p.m.  
Speaker:  
Tomasz Żółtak

Short Course #2:  
**Computerized Adaptive Testing and Multistage Testing with R**  
Monday, July 24, 2023 | 9:00 a.m. - 5:00 p.m.  
Speakers:  
Alina A. von Davier  
Duanli Yan
IMPS 2023 Keynote Speakers

**Dr. Klaas Sijtsma**  
*Tilburg University*  
Tuesday, July 25  
1:00 p.m. - 2:00 p.m.

**2023 Career Award for Lifetime Achievement**  
Who Cares about Psychometrics?

**Inhan Kang**  
*The Ohio State University*  
Tuesday, July 25  
3:45 p.m. - 5:30 p.m.

**2023 Dissertation Prize**  
A trilogy of modeling conditional dependence in and between responses and response times

**Prof. Steven Culpepper**  
*University of Illinois Urbana-Champaign*  
Wednesday, July 26  
1:35 p.m. - 2:35 p.m.

**Keynote Speaker**  
Refining Hidden Markov Models for Diagnostic Research

**Prof. Hong Jiao**  
*University of Maryland, College Park*  
Thursday, July 27  
10:30 a.m. - 11:30 a.m.

**Keynote Speaker**  
Integrating Item Product and Process Data to Enhance the Theory and Practices of Psychometric Analyses in Digital Assessments

**Prof. Gongjun Xu**  
*University of Michigan*  
Thursday, July 27  
3:05 p.m. - 3:50 p.m.

**2023 Early Career Award**  
Identifiability of Cognitive Diagnosis Models

**Dr. Jeff Douglas**  
*University of Illinois Urbana-Champaign*  
Friday, July 28  
10:30 a.m. - 11:30 a.m.

**2023 Presidential Address**  
Some dichotomies in restricted latent class models for diagnostic classification
Dr. Kim De Roover  
KU Leuven  
Tuesday, July 25  
9:15 a.m. - 10:00 a.m.  
Finding clusterwise measurement invariance with mixture multigroup factor analysis

Dr. Ed Merkle  
University of Missouri  
Tuesday, July 25  
9:15 a.m. - 10:00 a.m.  
Progress and Pitfalls in Bayesian Latent Variable Models

Dr. Nidhi Kohli  
University of Minnesota  
Wednesday, July 26  
10:30 a.m. - 11:15 a.m.  
Piecewise Random-Effects Models for Segmented Longitudinal Trends

Dr. Li Cai  
University of California, Los Angeles, and Vector Psychometric Group, LLC  
Wednesday, July 26  
10:30 a.m. - 11:15 a.m.  
Tinkering with parametric item response theory

Dr. Chun Wang  
University of Washington  
Wednesday, July 26  
11:20 a.m. - 12:05 p.m.  
VEMIRT: A Family of Variational Methods for Multi-dimensional IRT Applications

Dr. Qiwei (Britt) He  
Educational Testing Service  
Wednesday, July 26  
11:20 a.m. - 12:05 p.m.  
Sequence Mining Methods for Process Data Exploration
**Graduate Student Mixer Reception**  
**Monday, July 24 | 6:30 p.m. - 8:30 p.m.**  
The annual student mixer will take place on the rooftop at the Top of 7’s Ballroom at The Hotel at the University of Maryland (7777 Baltimore Avenue) located near the University of Maryland, College Park.

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 appetizer buffet and cash bar, and meet other students from around the world. An RSVP was requested to attend.

**Group Photo**  
**Tuesday, July 25 | 2:00 p.m. - 2:15 p.m.**  
Colony Ballroom (Second Floor)

Immediately following the Keynote Session (Prof. Klaas Sijtsma), please stay seated 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 2023 Welcome Reception and Poster Session**  
**Tuesday, July 25 | 5:30 p.m. - 7:30 p.m.**  
The Welcome Reception will be in combination with the Poster Session Reception located at The Hotel at the University of Maryland (7777 Baltimore Avenue).

Light hors d’oeuvres and a cash bar will be provided by the Psychometric Society. During the Welcome Reception, meeting attendees may explore a diverse collection of psychometric research at the conference poster session reception.

Presenters will be standing by their posters from 6:00 p.m. - 7:30 p.m. in this casual and fun setting.  

**Click here** to view the IMPS 2023 list of poster titles and presenters.

Additional information for poster presenters can be found [here](#).

Your guest is welcome to attend the reception for an additional fee. Stop by the IMPS registration desk (Grand Ballroom Lounge [First Floor]) to inquire.

**IMPS 2023 Closing Reception Excursion**  
**Friday, July 28 | 7:00 p.m. - 10:00 p.m.**  
The Closing Reception Excursion is new this year! The banquet and excursion events have been combined to create a fun, end-of-meeting experience at the Spy Museum in Washington, D.C. (700 L’Enfant Plaza SW). This event will take place on the evening of Friday, July 28, from 7:00 p.m. - 10:00 p.m. (Transportation available 6:15 p.m. - 10:30 p.m.)

This event is included in the attendee conference registration fee and offers optional bus transportation to and from Washington D.C., admission to the Spy Museum, and a reception with heavy buffet appetizers and a cash bar. The reception is a great opportunity to have fun and network with fellow attendees and guests.

Food and beverages are located on the rooftop of the Museum and on the 4th and 5th exhibit floors that are exclusive only to IMPS attendees (and guests). Your guest is welcome to attend for an additional fee. Stop at the Society Registration Desk to inquire at least 48 hours prior to the event.

**Transportation on your own:** Attendees are not required to use the transportation provided. On Friday, July 28, the IMPS educational sessions end by 12:45 p.m. Attendees may consider exploring D.C. on their own prior to the Closing Reception Excursion. Attendees can use the METRO to get to D.C. and plan to meet directly at the Spy Museum, or they may come back to College Park after exploring and catch the provided transportation to the museum anytime between 6:15 p.m. - 8:00 p.m. Attendees may also choose to stay longer in the D.C. area following the Spy Museum event and not utilize the IMPS transportation back to the College Park area. For more details on using the METRO to get to and from D.C., [click here](#). To explore things to do in D.C., [click here](#).
Bus Transportation provided:
Bus transportation will be provided by the Psychometric Society and available for all attendees to use to and/or from The Spy Museum in Washington, D.C. Bus pick-up and drop-off will take place at the College Park Marriott Hotel & Conference Center (3501 University Blvd E, Hyattsville, MD 20783). Buses will be available at the Marriott on a loop for attendees to take transportation anytime to the Spy Museum between 6:15 p.m. - 8:00 p.m. Return buses will then be available at the Spy Museum on a loop between 8:00 p.m. - 10:30 p.m. back to the Marriott. The last bus will depart from the Spy Museum at 10:30 p.m.

Bus Transportation Tip:
If you would like to be paired with your friends to travel to and from D.C., please be sure to line up together in order to be placed on the same bus.

Schedule Overview for the Evening:
6:15 p.m. - 8:00 p.m. | Buses available at the College Park Marriott on a loop to transport attendees to The Spy Museum, in Washington, D.C.

The Society has coordinated with the Spy Museum Gift Shop, which will stay open until 8:00 p.m. for IMPS attendee private access. Consider stopping by the gift shop to check out all the great souvenirs. (Note: Attendees may be required to show their IMPS badge after 7:00 p.m. to gain private access to the shop, as it closes to the public at 7:00 p.m. The gift shop is located in the main lobby area of the Spy Museum.)

7:00 p.m. - 10:00 p.m. | Closing Reception Excursion Event. Attendees will receive admission to explore the Spy Museum and interact on the 4th and 5th floors of the exhibits, plus take in great views on the rooftop. In addition, a hosted appetizer buffet and a cash bar will be provided for attendees and guests to enjoy.

8:00 p.m. - 10:30 p.m. | Buses available on a loop at the Spy Museum to transport attendees back to the College Park Marriott.

Important Note:
The Spy Museum doors do not open until 7:00 p.m. for IMPS attendee access. (Traffic is hard to predict in the Washington, D.C., area and we apologize in advance if any of the IMPS buses arrive early.) Attendees are welcome to stay on the bus, go shopping in the Museum gift shop, or walk around outside of the Spy Museum gift shop, or walk around outside of the Spy Museum to take pictures and visit with other fellow attendees until the event start time.
Conference Venue
IMPS will take place at the Adele H. Stamp Student Union, commonly referred to as “Stamp” on the campus of the University of Maryland, College Park (Maryland, USA). For an interactive UMD map, click here: maps.umd.edu/map.

The educational sessions will be located at the Adele H. Stamp Student Union (3972 Campus Drive) on the University of Maryland campus. The building is on the right of the intersection between Campus Drive and Union Lane.

Important Note: Information about vehicle and pedestrian detours during IMPS can be found here.

The opening session, keynotes, group photo, awards, members meeting and closing talks will take place in the Colony Ballroom (Second Floor). The concurrent sessions will take place on both the first and second floors. In addition to the educational meeting spaces, Stamps Union offers a food court (refer to Dine@UMD), and the TerpZone (bowling alley) for attendees’ additional enjoyment.

Refer to the enclosed maps on pages 13-14 for a particular session room, the registration area, and/or the coffee break area.

Special Accommodations
If you require special accommodations and/or have special dietary needs during the meeting, please visit the staff located at the Registration Desk in the Stamps Union building (Grand Ballroom Lounge, first floor.) Once inside the building, the two floors with educational sessions can be accessed by elevator or stairs.

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.

Local Area Emergency Information
Hospital
umms.org/health-services/urgent-care/locations

College Park Medical Center
4701 Melbourne Place
College Park, MD 20740
Phone: (301) 450-5631
Appointments: expresshealthcaredc.com

Pharmacy
CVS Pharmacy
7501 Baltimore Avenue Suite 1
College Park, MD 20740
Phone: (301) 955-1922

Dentist
College Park Dental
7305 Baltimore Avenue #204
College Park, MD 20740
Phone: (301) 238-7083

ATMs Campus Locations (Automated Teller Machine)
Stamp Union (Exterior)
Open 24 Hours
3972 Campus Drive
College Park, MD 20742

Lefrak Hall
Open 24 Hours
7251 Preinkert Drive
College Park, MD, 20742

Ellicott Hall
Open 24 Hours
4052 Stadium Drive
College Park, MD, 20742

IMPS Registration and Information Desk
The IMPS Registration and Information Desk is located in the Stamps Union Building at the University of Maryland, College Park in the Grand Ballroom Lounge (First Floor) throughout the Annual Meeting, July 24 to July 28. A Psychometric Society staff member 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.
General Conference Information

Hours of Operation:
Monday, July 24
8:00 a.m. - 11:00 a.m. & 2:30 p.m. - 4:30 p.m.
(Short Course Workshops Day; however, the
desk is available to all meeting attendees.)

Tuesday, July 25
8:00 a.m.- 4:30 p.m.

Wednesday, July 26
8:30 a.m.-4:30 p.m.

Thursday, July 27
8:30 a.m. - 4:30 p.m.

Friday, July 28
8:30 a.m. - 1:00 p.m.

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

Thumb Drives containing the IMPS 2023
Program and Abstract Book
The Society has placed the IMPS 2023
program book and abstract book on a 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
meeting page or the meeting app also host
the IMPS 2023 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, which tend to be very humid. July
is typically the warmest month of the year,
with an average a high temperature of 33°C
or 92°F and a low of 18°C or 64°F. It may
rain, but typically rains are less frequent
in the summer. We recommend dressing
appropriately for the weather, but in layers as
the Stamps Union building is air conditioned.

Meeting Refreshment Breaks, Attendee
Lunch Breaks, and Hosted IMPS Events
During the conference week there will be
morning and afternoon refreshments (i.e.,
beverage service) during the session breaks.
The break area will be part of the Exhibit
& Sponsor area that will be located in the
Charles C. Carroll Room (Second Floor) in the
Stamps Union. Water stations will also be set
up in this same space daily between 8:30 a.m. 
- 4:30 p.m. To learn more about this year’s
exhibit hall, go to page 27. Lunch will not be
provided by the Society; rather, attendees
will be on their own for lunch. Check out the
mobile app for a list of restaurants near the
University area or click here to view Dine@
UMD.

Please refer to the Program schedule on
pages 15-26 for the timeline of daily coffee
breaks, lunch breaks, and hosted IMPS
events.
**General Conference Information**

**IMPS 2023 Mobile APP**
The Psychometric Society has a mobile app for IMPS 2023. Please download the “EXORDO” app using App Store or Google Play. Once you open the app, you will need to search for the event by entering “IMPS2023.” Tap on the event and then “Join” for access.

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.

**University Internet (Wi-Fi Access)**
To access UMD’s guest Wi-Fi during the IMPS, please use the following instructions. Please note that the usernames and passwords will change daily.

**Guest Wi-Fi Instructions:**

1. Connect your device to the “UMD-Guest” network.

2. Open a web browser.

3. If the browser doesn’t automatically direct you to the login screen then go to the umd.edu website. This will cause the login screen to appear.

4. Type in the username and password for the current date (listed below) and click “login.” Notice that all usernames and passwords are lowercase.

5. **NOTE:** If you receive the “Success” pop-up but don’t have internet access try to turn your Wi-Fi off and then back on.

**Day 1 – Monday, July 24**
Username: imps2023-1
Password: eakswoorivas

**Day 2 – Tuesday, July 25**
Username: imps2023-2
Password: lyncaederetr

**Day 3 – Wednesday, July 26**
Username: imps2023-3
Password: pylogeoreptc

**Day 4 - Thursday, July 27**
Username: imps2023-4
Password: rnpaurulipur

**Day 5 – Friday, July 28**
Username: imps2023-5
Password: psiletuninku
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.

2023 Society President & Organizing Committee Chair:
Jeff Douglas, University of Illinois Urbana-Champaign

IMPS 2023 Local Committee
Hong Jiao, University of Maryland
(Conference Host Site)
Qiwei (Britt) He, Educational Testing Service
Frank Rijmen, Cambium Assessment

IMPS 2023 Program Committee:
Jeff Douglas, Chair, University of Illinois
Carolyn Anderson, University of Illinois
Yunxiao Chen, London School of Economics and Political Science
Chia-Yi Chiu, University of Minnesota
Steven Culpepper, University of Illinois
Jimmy De La Torre, The University of Hong Kong
Hyeon-Ah Kang, University of Texas-Austin
Kentaro Hayashi, University of Hawaii-Manoa
Qiwei (Britt) He, Educational Testing Service
Hong Jiao, University of Maryland
David Kaplan, University of Wisconsin
Justin Kern, University of Illinois
Wenchao Ma, University of Alabama
Iринi Moustaki, London School of Economics and Political Science
Frank Rijmen, Cambium Assessment
Steffi Pohl, Freie Universitat Berlin
Andries van der Ark, University of Amsterdam
Shiyu Wang, University of Georgia
Susu Zhang, University of Illinois

THANK YOU
A very special extra thank you goes to our local organizing committee members Hong Jiao, Qiwei (Britt) He, Frank Rijmen, and the UMD Volunteers for all their hard work this year!

Many thanks also to the University of Maryland, the College of Education at UMD, the Department of Human Development and Quantitative Methodology, and the Maryland Assessment Research Center for their support of IMPS 2023.

We sincerely hope you have a wonderful visit to College Park, Maryland (Washington, D.C.). Thank you for joining us at IMPS 2023!

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: 608-333-0310
Email: info@psychometricsociety.org
**IMPS Registration Hours of Operation**

**Adele H. Stamp Student Union Building**  
Address: 3972 Campus Dr, College Park, MD 20742  
Registration Room: Grand Ballroom Lounge (First Floor)

- **Monday, July 24:** 8:00 a.m. - 11:00 a.m. & 2:30 p.m. - 4:30 p.m.
- **Tuesday, July 25:** 8:00 a.m. - 4:30 p.m.
- **Wednesday, July 26:** 8:30 a.m. - 4:30 p.m.
- **Thursday, July 27:** 8:30 a.m. - 4:30 p.m.
- **Friday, July 28:** 8:30 a.m. - 1:00 p.m.

**Monday • July 24**

<table>
<thead>
<tr>
<th>Short Course #1: From Collecting Log-data to Analyzing Process Indicators with logLime R package</th>
<th>Short Course #2: Computerized Adaptive Testing and Multistage Testing with R</th>
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</thead>
<tbody>
<tr>
<td>Speaker: Dr. Tomasz Zoltak</td>
<td>Speakers: Dr. Alina Von Davier and Dr. Duanli Yan</td>
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<tr>
<td>9:00 - 10:30 Short Course</td>
<td>9:00 - 10:30 Short Course</td>
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<td>10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)</td>
<td>10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)</td>
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<tr>
<td>10:50 - 12:00 Short Course</td>
<td>10:50 - 12:00 Short Course</td>
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<td>12:00 - 1:30 Lunch Break (on your own)</td>
<td>12:00 - 1:30 Lunch Break (on your own)</td>
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<tr>
<td>1:30 - 3:00 Short Course</td>
<td>1:30 - 3:00 Short Course</td>
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<tr>
<td>3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)</td>
<td>3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)</td>
</tr>
<tr>
<td>3:20 - 5:00 Short Course</td>
<td>3:20 - 5:00 Short Course</td>
</tr>
</tbody>
</table>

**Off-site Location:** The Hotel at the University of Maryland | 7777 Baltimore Ave, College Park, MD 20740; Room: Top of 7's Ballroom (Rooftop)

**Graduate Student Mixer Reception**

This event is exclusively for graduate students and will be hosted by the Psychometric Society.
Tuesday • July 25

Colony Ballroom (Second Floor)

Welcome

Atrium (First Floor)

Invited Talk: Dr. Kim De Roover
Finding clusterwise measurement invariance with mixture multigroup factor analysis
Chair: Dr. Jeff Douglas

Coffee Break

Colony Ballroom (Second Floor)

Symposium: New Science Standards, New(ish) Psychometrics
Chair: Dr. Frank Rijmen

New science standards, new(ish) psychometrics
Dr. Frank Rijmen

Test design and calibration model for three-dimensional science assessments
Dr. Frank Rijmen

Assessing item fit for the Rasch testlet model
Dr. Dandan Liao

Evaluation of person fit
Dr. Zhongjian Lin

Item drift for item clusters
Dr. Mengyao Cui

The Assertion Mapping Procedure for setting performance standards
Dr. Yi-Fang Wu

Session: Diagnostic Classification Models
Chair: Prof. Jeff Douglas

An ordinal diagnostic model for inferring item-level and category-specific structure
Mr. Auburn Jimenez

Regularization in Cognitive Diagnosis Models
Dr. Yuan Ge

Going Deep in Diagnostic Modeling: Deep Cognitive Diagnostic Models (DeepCDMs)
Dr. Yuqi Gu

Identifying Cognitive Diagnostic Models for Continuous or Count Responses
Mr. Seunghyun Lee

Session: Longitudinal Data Analysis
Chair: Dr. Charlie Iaconangelo

A Two-Step Robust Estimation Approach for Inferring Within-Person Relations in Longitudinal Design
Dr. Satoshi Usami

Detecting change in dynamics through change-point analysis and time-varying parameters
Dr. Meng Chen

Repeated measurement analysis for non-linear data in small samples
Dr. Surnniee Kim

Circumplex models with behavioral time series
Ms. Dayoung Lee

Dynamic model with interactions: insight from the predator-prey model
Ms. Minglan Li

Session: Response Times
Chair: Dr. Hyeon-Ah Kang

Detecting local item dependency associated with response latency: A test security application
Dr. Joseph Grzegorzewski

Exploring asymmetric relationships between response time and latent traits in noncognitive measurement
Ms. Tongtong Zou

Fitting a drift-diffusion IRT model to complex cognitive response times
Dr. Ritwik Malazy

Item response theory modeling with response times: Some issues
Prof. Susan Embretson

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

Session: Item Response Theory
Chair: Dr. Justin Kern

Modeling variance and skewness as functions of latent factors in Latent Variable Models with mixed items
Mr. Camilo Cardenas

Joint modeling of action sequences and action times in problem-solving tasks
Dr. Peida Zhan

Effect of testlets’ difficulty distribution on estimation accuracy and reliability improvement
Dr. Kai Liang

Item response modeling of clinical instruments with filter questions
Dr. Brooke Magnus

Assessing Dimensionality of Sparse Item Response Data: Comparison of Different Data Imputation Methods
Dr. Yong Luo

Session: Measurement Applications
Chair: Dr. Eric Schuler

Longitudinal measurement invariance of Christian scales
Mr. Hiroki Matsuo

A Study on the Influence of Family Moral Education on College Students’ Moral Outlook
Ms. Qile Liu

Assessing the consistency of affective responses
Mr. Niels Vanhasbroeck

Session: Causal Inference
Chair: Prof. Carolyn Anderson

Causal effect sensitivity across sets of competing DAGs
Mr. Ronald Flores

Bounding Causal Effects of Pretest-Posttest Designs with a Control Group
Mr. Muwon Kwon

Investigating causal relationships between longitudinal treatment patterns and heterogeneous effects
Ms. Hanna Kim

A practical guide on selecting propensity score matching methods
Ms. Lizzy Wu

Moderated treatment effects in nonrandomized partially nested designs
Dr. Xiao Liu
TUESDAY CONTINUED
11:30 a.m. - 1:00 p.m.

1:00 p.m. - 2:00 p.m.

2:00 p.m. - 2:30 p.m.

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

2:00 p.m. - 2:30 p.m.

Attendee Lunch (On Your Own)

Lunch Break
Refer to the Where to Dine @UMD Map

Colony Ballroom (Second Floor)
Career Award for Lifetime Achievement Speaker: Prof. Klaas Sijtsma
Who Cares about Psychometrics?
Chair: Prof. Jeff Douglas

Colony Ballroom (Second Floor)
Group Photo (2:00 - 2:15)
All attendees welcome!

Colonies Ballroom (Second Floor)

Symposium: Psychometric Analysis of Patient Reported Outcomes
Chair: Prof. Jeff Douglas
Psychometric Analysis of Patient Reported Outcomes
Prof. Jeff Douglas

Opportunities and Challenges in the Field of Patient Reported Outcomes
Dr. Charlie Iaconangelo

Some methodologic challenges in analyzing patient-reported outcomes in health sciences
Dr. Edward Ip

A latent variable mixed-effects location scale model for patient reported longitudinal data
Prof. Shelley Blozis

A hidden Markov modelling approach for understanding patient health over time
Mr. Eric Wayman

Atrium (First Floor)

Session: Computerized Adaptive Testing
Chair: Dr. Duanli Yan
Developing CD-CAT algorithms for college gate-way STEM courses
Ms. Xueyu Tang

A Dynamic Balancing Attribute Coverage Method for CD-CAT
Dr. Chia-Ling Hsu

Designing Variable-Length Multidimensional Multistage Computerized Adaptive Testing
Dr. Yi-Ling Wu

A New Approach to Evaluating Item Parameter Drift in Computerized Adaptive Testing
Mr. Hwanggyu Lim

Reducing Measurement Errors for PISA's Computerized Multistage Testing by Using an On-The-Fly Multistage Design that Incorporates Response Time
Prof. Hua Hua Chang

Prince George's Room (First Floor)

Session: Computational Methods for Latent Variable Models
Chair: Prof. Ying Cheng
Priors in Bayesian Estimation under the Graded Response Model
Prof. Seock-Ho Kim

A doubly stochastic gradient algorithm for high-dimensional latent variable models
Mr. Motonori Okada

Assessing fitting propensities of item response models using limited-information methods
Dr. Yoon Soo Suh

Fast M-Estimation of GLLVM in High Dimensions
Prof. Maria-Pia Victoria-Feser

Using Cross-Validation for Parameter Selection in Cubic Spline Postsmoothing
Dr. Stella Kim

Benjamin Banneker (Second Floor)

Session: Diagnostic Classification Models
Chair: Dr. Dandan Liao

A novel framework of diagnostic classification model for multiple-choice items and a simulation study
Mr. Kentaro Fukushima

Restricted HMM for latent class attribute transitions
Mr. Theren Williams

Higher order personalized slip tendency model for cognitive diagnosis
Ms. Yuting Liu

Q-matrix identification using text classification: TF-IDF and word embedding
Mr. Yuxiao Zhang

Charles C. Carroll (Second Floor)

Coffee Break (2:15 - 2:30)

Margaret Brent (Second Floor)

Session: Item Response Theory
Chair: Dr. Lei Wan

Omitted response treatment using a modified Laplace smoothing for approximate Bayesian inference in Item Response Theory
Dr. Matthias von Davier

Asymptotic Standard Errors of Model-based Oral Reading Fluency Score Estimating
Dr. Xin Qiao

Factors impacting high dimensional graded response model calibration
Mr. Kenneth McClure

Asymptotic standard errors of equating coefficients for non-parametric ability distribution
Dr. Ikko Kawahashi

IIFree models of co-occurring dominance and ideal point response processes
Ms. Viola Merhof

Juan Ramon Jimenez (Second Floor)

Session: Mixed-Effects and Multilevel Models
Chair: Dr. Satoshi Usami
Bayesian Stacking in Multilevel Models
Ms. Mingya Huang

On Generating Plausible Values for Multilevel Modeling in Large-Scale Assessments
Dr. Xiaying Zhao

Efficient additive Gaussian process models for large-scale balanced multi-level data
Ms. Sahoko Ishida

Evaluation of factors impacting predictor importance results in multilevel models
Ms. Soonhwa Paek

Best practices for centering categorical predictors in multilevel models
Ms. Haley Yaremych

Thurgood Marshall (Second Floor)

Session: Measurement Applications
Chair: Dr. Daniel Edi

Validation of the household food security survey module using Confirmatory Factor Analysis and Rasch modeling
Ms. Jing Lu

Examining the Measurement Invariance of the Chinese Short Grit Scale
Ms. Roit Chakraborty

A shortened Positive and Negative Symptom Scale (PANSS): harmonizing classical item response theory with the perspectives from network approach
Dr. Jinliu Liu

The impact of teachers' instructional methods on the reading achievement of resilient students
Ms. Qile Liu

Assessing raters' rating quality under holistic and analytic scoring schemes in writing assessment: An empirical example
Dr. Diego Carrasco
Welcome Reception and Poster Session

Light hors d’oeuvres and a cash bar reception will be offered for all attendees! Presenters will be standing by their posters from 6:00 p.m. - 7:30 p.m. in a casual and fun setting to include hors d’oeuvres and a cocktail reception. Click here to view the poster list.
Wednesday • July 26

All Times Listed in Eastern Time

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

Colony Ballroom (Second Floor)

Symposium: Psychometrics at College Board
Chair: Dr. Luz Bay

Moderator: Dr. Luz Bay
Panelists:
Dr. Jansen (Cassie) Chen
Dr. Weiwei Cui
Dr. Yuan Ge
Dr. Joseph Grochowalski
Dr. Amy Hendrickson
Dr. YoungKoung Kim
Dr. Tim Moses
Dr. Lei Wan
Dr. Xiujuan Zhang

Atrium (First Floor)

Session: Process Data
Chair: Qiwei He
A Latent Hidden Markov Model for Process Data
Dr. Xueying Tang
Leveraging process data and variable selection for TIMSS achievement estimation
Ms. Dihao Leng
Supporting the process evaluation of assessing others’ skills: A content analysis using deep learning
Dr. Xue Wang
Process Data Enhanced Diagnostic Measurement using Topic Modeling on Constructed Responses
Ms. Constanza Mardones-Segovia

Prince George’s Room (First Floor)

Session: CD-CAT
Chair: Prof. Susu Zhang
The Nonparametric Item Selection Method for Multiple-Choice Items in CD-CAT
Ms. Yu Wang
CD-CAT for the Extended Multiple-Choice DINA model
Prof. Jimmy de la Torre
Termination Rules for Hierarchical Cognitive Diagnosis Computerized Adaptive Testing
Dr. Ya-Hui Su
Designing Item Pools for Nonparametric CD-CAT
Dr. Jiahui Zhang

Benjamin Banneker (Second Floor)

Session: Missing Data
Chair: Prof. David Kaplan
Handling missing data in ecological momentary assessments via later retrieval
Dr. Manshu Yang
Evaluating model fit with missing nonnormal data in SEM
Dr. Fan Jia
Mixture of missing-data mechanisms in multigroup invariance testing
Dr. Young Min Kim
Regularized estimation of the Gaussian graphical model under planned missing data
Dr. Carl Falk
Performance of Item-Fit Test Statistics in Cognitive Diagnosis Modeling based on Imputed Missing Data
Dr. Kevin Carl Santos

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

Colony Ballroom (Second Floor)

Margaret Brent (Second Floor)

Session: Diagnostic Classification Models
Chair: Prof. Jeff Douglas
Diagnosing skills and misconceptions with Bayesian Networks applied to diagnostic MC tests
Prof. James Corter
A sparse latent class model incorporating response time
Prof. Jeff Douglas
Testing the Whole Testlet: An Application of the Mantel-Hanszel Statistic
Prof. Youn Seon Lim
Identifiability of Estimated Q-Matrices: Implications for Estimation Algorithms
Ms. Hyunjoo Kim

Juan Ramon Jimenez (Second Floor)

Session: Differential Item Functioning
Chair: Dr. Terry Ackerman
DIF detection in a response time measure: an LRT method
Dr. Anne Thissen-Roe
Empirical evaluations of DIF detection methods
Dr. Yevgeniy Ptukhin
Asymmetry-induced model misspecification and the observation of cross-national DIF
Ms. Qi (Helen) Huang
Unveiling gender bias in SET: a text mining approach
Dr. Wen Qu

Charles C. Carroll (Second Floor)

Coffee Break

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

Invited Speaker: Dr. Li Cai
Tinkering with parametric item response theory
Chair: Dr. Edgar Merkle

Invited Speaker: Dr. Nidhi Kohli
Piecewise Random-Effects Models for Segmented Longitudinal Trends
Chair: Prof. Irini Moustaki
## Atrium (First Floor)

**State of the Art Speaker:** Dr. Qiwei (Britt) He

**Sequence Mining Methods for Process Data Exploration**

Chair: Prof. Carolyn Anderson

## Colony Ballroom (Second Floor)

**Invited Speaker:** Dr. Chun Wang

**VEMIRT: A Family of Variational Methods for Multi-dimensional IRT Applications**

Chair: Prof. David Kaplan

## Attendee Lunch (On Your Own)

Refer to the [Where to Dine @UMD Map](#)

## Lunch Break

## Colony Ballroom (Second Floor)

**Keynote Speaker:** Prof. Steven Culpepper

**Refining Hidden Markov Models for Diagnostic Research**

Chair: Prof. Jeff Douglas

## Margaret Brent (Second Floor)

**Session:** Classification and Clustering

Chair: Dr. Gabriel Wallin

- Clusterwise Joint-ICA for studying heterogeneity between subjects in multi-modal components
  - Dr. Tom Wilderjans
- Bootstrap Standard Errors for LDA, NCA, and Transformation-Matrix Methods with Multiple Solutions
  - Dr. Yikai Lu
- MixML-SEM: A parsimonious approach for finding clusters of groups with equivalent structural relations in presence of measurement non-invariance
  - Ms. Hongwei Zhao
- Model-agnostic unsupervised detection of bots in Likert-type survey data
  - Mr. Michael John Ilagan
- Power analysis for correspondence measures of replication success
  - Mr. Patrick Sheehan

## Juan Ramon Jimenez (Second Floor)

**Session:** Test Theory

Chair: Prof. Seock-Ho Kim

- Contributions of Equating Error and Measurement Error to Score Variability
  - Dr. Dongmei Li
- Test item instructional sensitivity indices incorporating instructional content and quality
  - Prof. Anne Traynor
- Latent equating: the case of the NEAT design
  - Dr. Inés Varas
- A comparison of equating method to detect longitudinal trends
  - Dr. Haruhiko Mitsunaga
- Self-normalized, score-based tests of models with dependent observations
  - Dr. Ting Wang

## Thurgood Marshall (Second Floor)

**Session:** Measurement Applications

Chair: Prof. Youn Sean Lim

- Decision-making when representing survey data: Is one dimension enough?
  - Mr. Linda Galib
- Global validity of assessments: Location and currency effects
  - Ms. Ambar Kleinbort
- Are we playing the same game? Translating fairness content
  - Ms. Amy Li
- Development and comparison of regular and reversed items measuring the need for intimacy in the workplace
  - Mr. Seito Nakamura
- Characterizing Individual Differences in Medical Certification Testing
  - Ms. Haeju Lee
### Coffee Break

### Colony Ballroom (Second Floor)
**Symposium: Emerging Trends in Psychometrics: Opportunities and Challenges**  
Chair: Dr. Kadriye Ercikan  
Emerging Trends in Psychometrics: Opportunities and Challenges  
Dr. Kadriye Ercikan  
Statistical and psychometric models for culturally responsive assessments  
Dr. Sandip Sinharay  
Predicting the psychometric properties of automatically generated items  
Dr. Jiyun Zu  
Assessing bias in AI-powered scoring models and developing strategies for reducing the risk  
Dr. Matthew Johnson  
Assessing collaborative problem solving: psychometric challenges and strategies  
Dr. Jianguang Hao

### Atrium (First Floor)
**Session: Machine Learning**  
Chair: Dr. Gongjin Xu  
Reconceptualizing idiographic and nomothetic relations in dynamic models powered by machine learning methods: Implications on causality inference  
Dr. Sy-Un Min Chow  
Multilevel causal machine learning methods for CATE with confidence bands  
Prof. Jee-Seon Kim  
MxML: Exploring the relationship between measurement and machine learning in recent history  
Prof. Yi Zheng  
Data preprocessing techniques using machine learning algorithms in large-scale assessment  
Mrs. Mingyin Zheng  
A mixed effects model in machine learning  
Dr. Pascal Kilian

### Prince George’s Room (First Floor)
**Session: Growth Mixture Models and Longitudinal Analysis**  
Chair: Prof. Iwona Moustaki  
Growth mixture model classification is inaccurate under realistic separation levels  
Dr. Sonja Winter  
Exploring the effect of item calibration and scoring methods on growth mixture model results  
Dr. James Soland  
Interpretable machine learning vs. linear mixed models for longitudinal data  
Ms. Young Won Cho  
An investigation of missing data analytical methods in longitudinal research: Traditional and machine learning approaches  
Ms. Dandan Tang  
A two-stage approach to a latent variable mixed-effects location scale model  
Prof. Shelley Blozis

### Benjamin Banneker (Second Floor)
**Session: Bayesian IRT**  
Chair: Dr. Yang Liu  
A Bayesian hierarchical item response theory model for estimating attributes of regular exams and students’ knowledge levels  
Mr. Jiatong Li  
Sparse Bayesian joint modal estimation for item factor analysis  
Mr. Keiichiro Hijikata  
WAIC and PSIS-LOO for Bayesian diagnostic classification model selection  
Ms. Ae Kyong Jung  
A comparative study of bayesian samplers in MCMC estimation for joint modeling of response, response time, and item revisit count  
Ms. Jinglei Ren

### Margaret Brent (Second Floor)
**Session: Differential Item Functioning**  
Chair: Prof. Daniel Bolt  
The effect of the projective IRT model on DIF detection  
Dr. Ye Ma  
Comparing frequentist and Bayesian approaches for detecting differential item functioning  
Dr. Eric Schuler  
The deconstruction of measurement invariance (and DIF) and developing strategies for reducing the risk  
Dr. Safrin Youssi  
An examination of the interaction between reliability and DIF detection  
Dr. Terry Ackerman  
Pervasive DIF and DIF detection bias  
Dr. Paul De Bock

### Juan Ramon Jimenez (Second Floor)
**Session: Structural Equation Models**  
Chair: Dr. Xinya Liang  
Prediction-based selection of individual predictors in generalized structured component analysis  
Ms. Bellete Lu  
Examining SEM trees for investigating measurement invariance concerning multiple violators  
Dr. Yuanfang Liu  
Accommodating multiple time metrics using the latent change score model  
Dr. Sarfaraz Serang  
Two-stage asymptotically distribution free method in structural equation modeling  
Mr. You-Lin Chen  
An empirical study of testing nonlinear latent relationships  
Prof. Fan Yang-Wallentin

### Thurgood Marshall (Second Floor)
**Session: Measurement Applications**  
Chair: Dr. Charlie Iaconangelo  
Psychometric perspectives on modeling and measuring synergistic risk factors  
Dr. Wilco Emons  
Improving preference analysis: Joint models for ordinal and cardinal data  
Mr. Michael Pearce  
Investigating interactive patterns in simulation-based inquiry tasks using sequential analysis  
Ms. Shuang Wang  
Prediction of cognitive impairment using machine learning models  
Dr. Lihua Yao  
Generating reading assessment passages using a large language model  
Dr. Ummugul Beirhan
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<td>Symposium: Innovative Methods for Variable Selection in Different Scenarios</td>
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<td>Innovative Methods for Variable Selection in Different Scenarios of Model</td>
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<td>A New Algorithm for Variable Selection in Building GLMMs</td>
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<td>Investigating variable selection techniques under missing data: a</td>
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<td>Clustering Intensive Longitudinal Data Using VAR Models with Lasso Estimator</td>
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<td>Using Gaussian Process Ordinal Regression with Mixture Errors to Understand</td>
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<td>Psychometric properties of the Dual-Range Slider response format</td>
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<td>Mapping of the data science skillset of Dutch master study graduates</td>
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<td>Research on Adaptive Learning System Based on Learners’ Academic Emotions</td>
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<td>Benjamin Banneker (Second</td>
<td>Session: Item Response Theory</td>
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<td>Scalable explanatory IRT modeling with sparse data structures</td>
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<td>Mitigating Bias in Ability Estimates during Routing in Multistage Testing</td>
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<td>The Gumbel-Reverse Gumbel (GRG) Model for Binary Data: A New Asymmetric IRT</td>
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<td>Quantile multilevel item response theory model with a change point</td>
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<td>A Comparison of Methods for Adjusting Samples and Test Score</td>
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<td>Differential item functioning treatment in computerized adaptive testing</td>
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<td>Identifiability of Polychoric Models with Latent Elliptical</td>
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<td>10:30 a.m. -</td>
<td>Coffee Break</td>
<td>Keynote Speaker: Prof. Hong Jiao</td>
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<td>11:30 a.m.</td>
<td>Colonies Ballroom (Second</td>
<td>Integrating Item Product and Process Data to Enhance the Theory and Practices</td>
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<td>Chair: Prof. Jeff Douglas</td>
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**Keynote Speaker:** Prof. Hong Jiao

**Integrating Item Product and Process Data to Enhance the Theory and Practices of Psychometric Analyses in Digital Assessments**

**Chair:** Prof. Jeff Douglas
**THURSDAY CONTINUED**

11:30 a.m. - 1:45 p.m.

**Attendee Lunch (On Your Own)**

Refer to the [Where to Dine @UMD Map](#)

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1:45 p.m. - 3:00 p.m.

**Colony Ballroom (Second Floor)**

Symposium: Capturing sample heterogeneity in dynamic psychological processes

- Chair: Ms. Di Jody Zhou
- Capturing sample heterogeneity in dynamic psychological processes
  - Ms. Xingyao Xiao
- A Bayesian mixture multilevel vector autoregressive model
  - Ms. Xingyao Xiao
- Identifying and Explaining Sample Heterogeneity in Dynamic Psychological Processes Using m-VARTree
  - Ms. Di Jody Zhou
- Impact of Temporal Order Selection on VAR-based Clustering of Intensive Longitudinal Data
  - Ms. Yaqi Li
- Clustering analysis of time series of affect in dyadic interactions
  - Mr. Samuel Aragonès
- Implications of Clustering Continuous-Time Processes Using Discrete-Time Methods
  - Mr. Jonathan Park

**Atrium (First Floor)**

Session: Generative AI

Chair: Dr. Qiwei He

- Assessment Engineering Meets Generative AI: Unlocking New Opportunities for Digital Assessment
  - Prof. Jaehwa Choi
- Generative Distractor Modeling with Generative AI
  - Mrs. Sunyoung Lee
- Features for detecting essays produced by generative AI
  - Prof. Hong Jiao
- Reassess the item response theory simulation with generative adversarial networks
  - Dr. Jiawei Xiong
- Automatic generation of cognitive test items using large language models
  - Mr. Antonio Laverghetta, Jr.

**Prince George's Room (First Floor)**

Session: Longitudinal and Dynamic Models

Chair: Prof. Zhenqiu Lu

- State Space Models for Ordinal Measurements: Towards a Generalized Dynamic IRT
  - Dr. Teague Henny
- Power Considerations in Dynamic Structural Equation Models
  - Mr. Hyungueon Oh
- Dynamic Structural Equation Modeling with Missing Data
  - Ms. Yuan Fang
- Challenges for psychometric evaluations in intensive longitudinal data
  - Prof. Holger Brandt
- Zero inflation in longitudinal data: why is it important and how should we deal with it?
  - Ms. Sijing (SJ) Shao

**Benjamin Banneker (Second Floor)**

Session: Item Response Theory

Chair: Dr. Hyeon-Ah Kang

- The assessment collaboration skill using multilevel multidimensional partial credit model
  - Ms. Guiju Li
- Computational aspects of modelling item responses
  - Dr. Patricia Martinkova
- Fisher Information-Based Difficulty and Discrimination Measures in Binary IRT
  - Mr. Peter Johnson
- A mixture IRTree approach to deal with heterogeneity in response strategies
  - Mr. Ömer Emre Can Alagöz
- Model averaging of (nonlinearly related) item response models
  - Dr. Leah Feuerstahler

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3:05 p.m. - 3:50 p.m.

**Margaret Brent (Second Floor)**

Session: Categorical Data Analysis

Chair: Prof. Susu Zhang

- Nominal category models and the independence of irrelevant alternatives assumption
  - Mr. Weicong Lyu
- Examining different approaches to treating zero-frequency cells in polychoric correlation estimation
  - Ms. Jeongwon Choi
- Using Extreme Threshold Constraints for Partially-Known Latent Class Models
  - Dr. Paul Scott
- Parallel analysis with a new decision rule
  - Mr. Ahmet Guven
- Model size effects on measurement invariance testing with ordinal indicators
  - Ms. Nana Amma Asamoah

**Juan Ramon Jimenez (Second Floor)**

Session: Missing Data

Chair: Dr. Zsuzsa Bakk

- A tailored sensitivity analysis procedure for the social sciences
  - Dr. Brenna Gomer
- Pay attention to ignorable missingness! How variations in the missing at random mechanism affect efficiency loss in parameter estimates
  - Dr. Lihan Chen
- The performance of strategies for handling non-effortful responses in equating
  - Mr. Juyoung Jung
- Estimators of the AIC and BIC in multiply imputed data
  - Dr. Joost Van Ginkel
- Missing data in discrete time state-space modeling of EMA data
  - Ms. Lindley Slipetz

**Thurgood Marshall (Second Floor)**

Session: Diagnostic Classification Models

Chair: Prof. Chia-Yi Chiu

- Decomposition of DIC for cognitive diagnosis model
  - Ms. Zhiduo Chen
- Investigating the effect of Q-matrix misspecification on estimating cognitive diagnosis models for small sample sizes
  - Ms. Beata Margarita Ladaga
- Improving Cognitive Diagnosis in Small Samples with Catalytic Priors
  - Mr. David Arthur
- Identifiability of Cognitive Diagnosis Models with Polytomous Responses
  - Ms. Mengqi Lin
- Partially Confirmatory Q Learning for Distinguishable Attribute Importance in the Compensatory CDMs
  - Ms. Yingying Li

**Colony Ballroom (Second Floor)**

Session: Edition Award Speaker: Prof. Gongjun Xu

Identifiability of Cognitive Diagnosis Models

Chair: Prof. Jeff Douglas

- Identifiability of Cognitive Diagnosis Models
### Colony Ballroom (Second Floor)

**Symposium: Digital Transformation-Virtual Standard Setting**  
Chair: Dr. Xinhui Xiong

- **Digital Transformation—Virtual Standard Setting**  
  Dr. Xinhui Xiong
- **Web-based Standard Setting for a Credit-By-Examination Program**  
  Dr. Weiling Deng
- **A hybrid virtual standard setting implementation for statewide assessments**  
  Dr. Jiawei Xiong
- **A video-based implementation of the Bookmark method for a college placement testing program**  
  Dr. Luz Bay

### Atrium (First Floor)

**Session: Item Response Theory**  
Chair: Dr. Matthew Johnson

- **Implementing Dynamic IRT Models to Account for Response Strategy Variability**  
  Dr. Clifford Hauenstein
- **Comparing Ability Parameters in Performance Factor Analysis and Item Response Theory using Kullback-Leibler Divergence**  
  Dr. Aminezeh Mehrabi
- **Revisiting the 1PL-AG item response model: Bayesian estimation and application**  
  Dr. Jorge Bazán
- **Extreme and Midpoint Response Styles: Two Sides of the Same Coin?**  
  Mr. Martijn Schoenmakers

### Prince George's Room (First Floor)

**Session: Network Analysis**  
Chair: Prof. Jeff Douglas

- **Incorporating level-specific covariates in structural equation models of social-network data**  
  Ms. Aditi Manoj Bhangale
- **Social network construct measurement error: An IRT-based latent space model**  
  Ms. Yishan Ding
- **Network approaches to clinical assessment data: LSIRM vs. network psychometrics**  
  Ms. Ludovica De Carolis

### Benjamin Banneker (Second Floor)

**Session: Factor Analysis**  
Chair: Dr. Chunhua Cao

- **Structured factor analysis: A data matrix-based alternative approach to structural equation modeling**  
  Mr. Gyeongcheol Cho
- **Comparison between Bayesian and Frequentist Regularization in Factor Analysis**  
  Dr. Xinya Liang
- **InterModel Vigorish for Model Comparison in CFA with Binary Outcomes**  
  Ms. Lijin Zhang
- **Estimating the Completely Oblique 2-parameter Bifactor Model**  
  Mr. Denis Federiakin
- **Controlling False Discovery Rate for Exploratory Factor Analysis model**  
  Ms. Xinyi Liu

### Margaret Brent (Second Floor)

**Session: Causal Inference**  
Chair: Dr. Sy-Miin Chow

- **Social network mediation analysis using degree-corrected stochastic block model**  
  Mr. Chunyang Zhao
- **A New Causal Mediation Approach Based on Observational Mediation Modeling and Instrumental Variable Regression**  
  Dr. Zijun Ke
- **Longitudinal mediation models: Understanding the impact of confounders and colliders**  
  Ms. Ziwei Zhang
- **Examining Instrument Relevance when There are Multiple Endogenous Predictors: A new Index**  
  Dr. Zijun Ke
- **Investigating weight constraint methods in causal-formative indicator modeling**  
  Ms. Ruoxuan Li

### Juan Ramon Jimenez (Second Floor)

**Session: Bayesian Methods**  
Chair: Dr. Xueying Tang

- **Addressing Publication Bias and Uncertainty for Power Analysis: A Hybrid Classical-Bayesian Approach**  
  Ms. Winnie Wing-Yee Tse
- **Alignment with Bayesian Region of Measurement Equivalence (ABROME) Approach for Multiple Groups Comparisons**  
  Ms. Yichao Zhang
- **Estimating data saturation in qualitative research using approximate bayesian computation**  
  Mr. Jinghao Ma
- **Identifiability and Estimability of Bayesian Linear and Nonlinear Crossed Random Effects Models**  
  Mrs. Corissa Rohloff

### Thurgood Marshall (Second Floor)

**Session: Model Fit**  
Chair: Prof. Zhenqiu Lu

- **Pairwise likelihood limited information goodness of fit tests for factor models**  
  Dr. Haziq Jamil
- **Using item scores and response times in person-fit assessment**  
  Ms. Kylie Gorney
- **Latent class analysis with measurement invariance testing: simulation study to compare overall likelihood ratio vs residual fit statistics based model selection**  
  Dr. Zsuzsa Bakk
- **Necessity of model selections in CD: The absolute fit indices versus the general classification methods**  
  Ms. Hyunjee Oh
- **A re-evaluation of cross-validation methods for psychological time series data**  
  Ms. Di Jody Zhou
Friday • July 28

Colony Ballroom (Second Floor)

Spotlight Session: Perspectives on Psychometrics
Chair: Dr. Denny Borsboom

Some pathologies of psychometrics: philosophical perspectives
Dr. Mark Wilson

Was psychometrics a mistake? Criticism from metrology and axiomatic measurement.
Dr. Keith Markus

Atrium (First Floor)

Session: Longitudinal and Multilevel Models
Chair: Prof. Shelley Blozis

Bridging the gap between probabilistic perception and generalization behavior with a computational model
Mr. Kenny Yu

Comparison of multilevel vs. standard prediction algorithms on nested data
Ms. Brennan Register

Fitting differential equation models to ILD with numerical optimizer
Dr. Yueqin Hu

Sample Planning For Detecting Cross-lag effect in Longitudinal Studies With Ordinal Outcomes
Ms. Sijing (SJ) Shao

The many reliabilities of affective dynamics
Dr. Sebastian Castro-Alvarez

Prince George’s Room (First Floor)

Session: Item Response Theory
Chair: Prof. Daniel Bolt

The Implications of IRT calibration and IRT scoring choices on group differences for large scale language exams
Dr. YoungKoung Kim

Accurately Estimating the Dimensional Relationships With the Three-Tier IRT Model
Dr. Ken Fujimoto

Information test of model fit assessment for multidimensional item response models
Mr. Youngjin Han

Benjamin Banneker (Second Floor)

Session: Differential Item Functioning
Chair: Prof. Jeff Douglas

Differential algorithmic functioning: A framework for evaluating fairness in algorithmic decision making
Dr. Youmi Suk

An effect size and asymptotic test for differential test functioning
Dr. Peter Halpin

DIF Statistical Inference without Knowing Anchoring Items
Ms. Jing Ouyang

Margaret Brent (Second Floor)

Session: IRT Applications
Chair: Dr. Dmitry Below

Leveraging Language Prompts to Generate Distractors for Fill-in-the-blank Items
Dr. Jiyun Zu

Estimating an individuals’ contribution to small-group task performance
Dr. Patrick Kyllonen

Modeling supervised and unsupervised items for non-cognitive tests
Dr. Veronica Cole

Comparing IRT-based models for recognition task data
Ms. Nana Kim

Juan Ramon Jimenez (Second Floor)

Session: Measurement Applications
Chair: Prof. Susu Zhang

Exploring the Feasibility and Effectiveness of using NLP for Generating Valid and Reliable Clinical Skills Assessment Items: An Expert Review Approach
Dr. Burhanettin Ozdemir

Using Residual Analysis to Evaluate Invariant Measurement In Cross-cultural Research: The Case of Mathematics Behaviors
Ms. Cigdem Toptas

Examining the influence of linguistic features of student writing on rater scores with latent profile analysis
Dr. Magdalena Beiting-Parrish

Intuitive Discrete Model for Lickert Scale Called GSD
Prof. Lucjan Janowski

Impact of low quality data on psychometric properties of scale
Dr. Nivedita Bhaktha

Thurgood Marshall (Second Floor)

Session: Measurement Applications
Chair: Prof. Youn Seon Lim

Development of an eleven-item scale for measuring food insecurity
Ms. Jing Li

Investigating a potentially culturally relevant NAEP reading text passage
Dr. Saki Ikoma

Evaluation of the effect of test delivery modes to item difficulties in a high-stake medical test
Dr. Luc Le

Examining intelligence assessment in autism, developmental delay, and language impairments
Dr. Stephanie Northington

Charles C. Carroll (Second Floor)

Coffee Break

Colony Ballroom (Second Floor)

Presidential Address: Prof. Jeff Douglas
Some dichotomies in restricted latent class models for diagnostic classification
Chair: Prof. David Kaplan
Meeting of the Members, Awards, and Closing Ceremony
Chair: Prof. Carolyn Anderson

Closing Reception Excursion
6:15 p.m. - 10:30 p.m.: Transportation Available • 7:00 p.m. - 10:00 p.m.: Event
For more details, visit the Closing Reception webpage.
Special thank you to our IMPS 2023 Sponsors and Exhibitors this year!

New this year, Exhibitors and Sponsors will be located in the Coffee Break refreshment area (Charles C. Carroll Room [Second Floor of the Stamps Union]). All IMPS refreshment breaks will take place in this location.

Please plan time to and visit with these companies and organizations during the week of IMPS 2023!

EXHIBIT AREA HOURS
Tuesday, July 25 | 10:00 a.m. - 2:30 p.m.
Wednesday, July 26 | 10:15 a.m. - 4:15 p.m.
Thursday, July 27 | 10:15 a.m. - 4:15 p.m.
Friday, July 28 | 8:30 a.m. - 10:30 a.m.

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