IMPS 2023
July 25-28 (Short Courses July 24)
University of Maryland
College Park, Maryland, United States

Schedule at a Glance
### 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)

<table>
<thead>
<tr>
<th>Day</th>
<th>Full-Day Short Courses</th>
<th>Short Course #1: From Collecting Log-data to Analyzing Process Indicators with logLime R packageLog Data</th>
<th>Short Course #2: Computerized Adaptive Testing and Multistage Testing with R</th>
</tr>
</thead>
</table>
| Monday, July 24      | 8:00 a.m. - 11:00 a.m. & 2:30 p.m. - 4:30 p.m. | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
12:00 - 1:30 Lunch Break (on your own)  
1:30 - 3:00 Short Course  
3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course | 9:00 - 10:30 Short Course  
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12:00 - 1:30 Lunch Break (on your own)  
1:30 - 3:00 Short Course  
3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course |
| Tuesday, July 25     | 8:00 a.m. - 4:30 p.m. | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
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3:20 - 5:00 Short Course |
| Wednesday, July 26   | 8:30 a.m. - 4:30 p.m. | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
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3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course |
| Thursday, July 27    | 8:30 a.m. - 4:30 p.m. | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
12:00 - 1:30 Lunch Break (on your own)  
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3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course |
| Friday, July 28      | 8:30 a.m. - 1:00 p.m. | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
12:00 - 1:30 Lunch Break (on your own)  
1:30 - 3:00 Short Course  
3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course | 9:00 - 10:30 Short Course  
10:30 - 10:50 Coffee Break (Location: Charles C. Carroll)  
10:50 - 12:00 Short Course  
12:00 - 1:30 Lunch Break (on your own)  
1:30 - 3:00 Short Course  
3:00 - 3:20 Coffee Break (Location: Charles C. Carroll)  
3:20 - 5:00 Short Course |

**Monday • July 24**

### Short Course #1:
- **From Collecting Log-data to Analyzing Process Indicators with logLime R packageLog Data**
  - Speaker: Dr. Tomasz Zoltak

<table>
<thead>
<tr>
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<tr>
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### 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

Charles C. Carroll (Second Floor)

Coffee Break

Margaret Brent (Second Floor)

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. Mwoon 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

Juan Ramon Jimenez (Second Floor)

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. Camillo 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. Kaili 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

Thurgood Marshall (Second Floor)

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 Vanhasbroek

All Times Listed in Eastern Time

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

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

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

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

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

Atrium (First Floor)

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

Prince George's Room (First Floor)

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. Sunmee Kim
Circumplex models with behavioral time series
Ms. Dayoung Lee
Dynamic model with interactions: insight from the predator-prey model
Ms. Minglan Li

Benjamin Banneker (Second Floor)

Session: Response Times
Chair: Dr. Hyeon-Ah Kang
Detecting local item dependency associated with response latency: A test security application
Dr. Joseph Grochowalski
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
Mr. Ritesh Malaiya
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. Camillo Cardenas
Joint modeling of action sequences and action times in problem-solving tasks
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Effect of testlets’ difficulty distribution on estimation accuracy and reliability improvement
Dr. Kaili 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
## TUESDAY CONTINUED

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

#### Attendee Lunch (On Your Own)

**Lunch Break**

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

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

#### Colony Ballroom (Second Floor)

**Career Award for Lifetime Achievement**

Speaker: Prof. Klaas Sijtsma  
**Who Cares about Psychometrics?**  
Chair: Prof. Jeff Douglas

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

#### Colony Ballroom (Second Floor)

**Group Photo (2:00 - 2:15)**

All attendees welcome!

#### Atrium (First Floor)

**Session: Computerized Adaptive Testing**

Chair: Dr. Duanli Yan

Developing CD-CAT algorithms for college gate-way STEM courses  
Ms. Xixiu 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 Oka

Assessing fitting propensities of item response models using limited-information methods  
Dr. Yon 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

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

#### 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

IRfree 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 Zheng

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

#### Charles C. Carroll (Second Floor)

**Coffee Break (2:15 - 2:30)**

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**Session: Computerized Adaptive Testing**

Chair: Dr. Duanli Yan

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

#### 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 Li

Examining the Measurement Invariance of the Chinese Short Grit Scale  
Ms. Roj-Chakrabarty

A shortened Positive and Negative Symptom Scale (PANSS): harmonizing classical item response theory with the perspectives from network approach  
Dr. Jinyuan 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
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
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</thead>
</table>
| 3:50 p.m. - 4:50 p.m. | Colony Ballroom (Second Floor) | Dissertation Award Speaker: Dr. Inhan Kang  
A trilogy of modeling conditional dependence in and between responses and response times  
Chair: Prof. Jeff Douglas |
| 5:30 p.m. - 7:30 p.m. | Off-site Location: The Hotel at the University of Maryland | 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

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. Jiansen (Cassie) Chen
Dr. Weiwei Cui
Dr. Yuan Ge
Dr. Joseph Grochowalski
Dr. Amy Hendrickson
Dr. YoungKoung Kim
Dr. Tim Moses
Dr. Lei Wan
Dr. Xiuyuan Zhang

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. Yeonjeong Pulkki

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

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.

Charles C. Carroll (Second Floor)

Coffee Break

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

Colony Ballroom (Second Floor)

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

Atrium (First Floor)

Invited Speaker: Dr. Nidhi Kohli
Piecewise Random-Effects Models for Segmented Longitudinal Trends
Chair: Prof. Irini Moustaki
### Wednesday

#### 11:20 a.m. - 12:05 p.m.

**Invited Speaker:** Dr. Chun Wang  
**VEMIRT: A Family of Variational Methods for Multi-dimensional IRT Applications**  
*Chair: Prof. David Kaplan*

#### 12:05 p.m. - 1:35 p.m.

**Attendee Lunch (On Your Own)**

#### 1:35 p.m. - 2:35 p.m.

**Keynote Speaker:** Prof. Steven Culpepper  
**Refining Hidden Markov Models for Diagnostic Research**  
*Chair: Prof. Jeff Douglas*

#### 2:40 p.m. - 3:55 p.m.

### 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**  
  *Mr. Yikai Lu*
- **MxML-SEM: A parsimony 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 Sheohan*

### 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 Seon Lim*

- **Decision-making when representing survey data: Is one dimension enough?**  
  *Ms. 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*
WEDNESDAY CONTINUED
3:55 p.m. - 4:15 p.m.

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)
Dr. Safir Yousfi
An Examination of the Interaction between Reliability and DIF Detection
Dr. Terry Ackerman
Pervasive DIF and DIF detection bias
Dr. Paul De Boeck

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 Bezirhan

Coffee Break
Thursday • July 27

Colony Ballroom (Second Floor)

Symposium: Innovative Methods for Variable Selection in Different Scenarios of Model Building
Chair: Prof. Hairong Song
Innovative Methods for Variable Selection in Different Scenarios of Model Building
Prof. Hairong Song
A New Algorithm for Variable Selection in Building GLMMs
Dr. Yutian Thompson
Investigating variable selection techniques under missing data: a simulation study
Ms. Catherine Bain
Clustering Intensive Longitudinal Data Using VAR Models with Lasso Estimator
Ms. Yaqi Li

Prince George’s Room (First Floor)

Session: Differential Item Functioning
Chair: Dr. Patrick Kyllonen
DIF Analysis with Unknown Groups and Anchor Items
Dr. Gabriel Wallin
Integrated Approach for Detecting Differential Item Functioning (DIF) in Survey Adapted Montreal Cognitive Assessment (MoCA-SA)
Dr. Ji Eun Park
A Comparison of Methods for Adjusting Samples and Test Score Distributions for Group Differences
Dr. Tim Moses
Understanding differential item functioning using process data
Ms. Ling Chen

Benjamin Banneker (Second Floor)

Session: Item Response Theory
Chair: Prof. Jee-Seon Kim
Scalable explanatory IRT modeling with sparse data structures
Dr. J.R. Lockwood
Mitigating Bias in Ability Estimates during Routing in Multistage Testing
Ms. Merve Sarac
The Gumbel-Reverse Gumbel (GRG) Model for Binary Data: A New Asymmetric IRT Model
Prof. Jay Verkuilen
Quantile multilevel item response theory model with a change point
Dr. Hongyue Zhu

Margaret Brent (Second Floor)

Session: Measurement Applications
Chair: Dr. Nidhi Kohli
Using Gaussian Process Ordinal Regression with Mixture Errors to Understand Student Well-being
Mrs. Elizabeth Gibbs
Psychometric properties of the Dual-Range Slider response format
Mr. Matthias Kloft
Mapping of the data science skillset of Dutch master study graduates
Dr. Zsuzsa Bakk
Research on Adaptive Learning System Based on Learners’ Academic Emotions
Ms. Chang Nie

Juan Ramon Jimenez (Second Floor)

Session: Item Response Theory
Chair: Dr. Anne Thissen-Roe
Differential item functioning treatment in computerized adaptive testing item pools
Mr. Juyoung Jung
Linking method for writing tests using item response theory and automated essay scoring
Mr. Kota Aramaki
Towards advancing precision environmental health: Developing a customized exposure burden score to PFAS chemicals using mixture item response theory
Dr. Shelley Liu

Thurgood Marshall (Second Floor)

Session: Statistical Methods and Theory
Chair: Dr. Tracy Sweet
Identifiability of Polychoric Models with Latent Elliptical Distributions
Dr. J.R. Lockwood
Mitigating Bias in Ability Estimates during Routing in Multistage Testing
Ms. Merve Sarac
The Gumbel-Reverse Gumbel (GRG) Model for Binary Data: A New Asymmetric IRT Model
Prof. Jay Verkuilen
Quantile multilevel item response theory model with a change point
Dr. Hongyue Zhu

Charles C. Carroll (Second Floor)

Coffee Break

Colony Ballroom (Second Floor)

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
### 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. Yiqi Li
  - 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 Aragones
  - 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. Zhengqi Lu
  - State Space Models for Ordinal Measurements: Towards a Generalized Dynamic IRT
    - Dr. Teague Henry
  - Power Considerations in Dynamic Structural Equation Models
    - Mr. Hyungjun 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. Guiyu 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

### Colony Ballroom (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

### Atrium (First 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

### Benjamin Banneker (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. Bea 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. Yunting Liu

### Colony Ballroom (Second Floor)
- **Symposium: Capturing sample heterogeneity in dynamic psychological processes**
  - Chair: Ms. Di Jody Zhou
- **Session: Longitudinal and Dynamic Models**
  - Chair: Prof. Zhengqi Lu
- **Session: Item Response Theory**
  - Chair: Dr. Hyeon-Ah Kang
- **Session: Diagnostic Classification Models**
  - Chair: Prof. Chia-Yi Chiu
- **Session: Generative AI**
  - Chair: Dr. Qiwei He
- **Session: Categorical Data Analysis**
  - Chair: Prof. Susu Zhang
- **Session: Missing Data**
  - Chair: Dr. Zsuzsa Bakk
- **Session: Generative AI**
  - Chair: Prof. Zhengqi Lu
- **Session: Categorical Data Analysis**
  - Chair: Prof. Susu Zhang
- **Session: Item Response Theory**
  - Chair: Dr. Hyeon-Ah Kang
- **Session: Diagnostic Classification Models**
  - Chair: Prof. Chia-Yi Chiu
### Coffee Break

**Charles C. Carroll (Second Floor)**

**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. Amineza 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

**Princeton 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

**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

**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. Yichi 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. Cornissa Rohloff

**Benjamin Banneker (Second Floor)**
**Session: Factor Analysis**
**Chair: Prof. 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

**Thurgood Marshall (Second Floor)**
**Session: Model Fit**
**Chair: Prof. Zhenqiu Lu**

- Pairwise likelihood limited information goodness of fit tests for factor models
  Dr. Haiziq 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
### Session: IRT Applications
**Chair:** Dr. Dmitry Belov

**Margaret Brent (Second Floor)**
- **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)**
- **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. Magdalen 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)**
- **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

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### Session: Measurement Applications
**Chair:** Prof. Susu Zhang

**Margaret Brent (Second Floor)**
- **Comparing IRT-based models for recognition task data**
  - Dr. Sebastian Castro-Alvarez

**Juan Ramon Jimenez (Second Floor)**
- **The many reliabilities of affective dynamics**
  - Dr. Sebastian Castro-Alvarez

**Benjamin Banneker (Second Floor)**
- **Examining intelligence assessment in autism, developmental delay, and language impairments**
  - Dr. Stephanie Northington

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

**Atrium (First Floor)**
- **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

**Prince George’s Room (First Floor)**
- **Information test of model fit assessment for multidimensional item response models**
  - Dr. Yoonsin Kim

**Thurgood Marshall (Second Floor)**
- **Evaluation of the effect of test delivery modes to item difficulties in a high-stake medical test**
  - Dr. Luc Le

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### Session: Item Response Theory
**Chair:** Prof. Daniel Bolt

**Atrium (First Floor)**
- **The Implications of IRT calibration and IRT scoring choices on group differences for large scale language exams**
  - Dr. YoungKoung Kim

**Benjamin Banneker (Second Floor)**
- **An effect size and asymptotic test for differential test functioning**
  - Dr. Peter Halpin

**Thurgood Marshall (Second Floor)**
- **Examining intelligence assessment in autism, developmental delay, and language impairments**
  - Dr. Stephanie Northington

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### Session: Differential Item Functioning
**Chair:** Prof. Jeff Douglas

**Benjamin Banneker (Second Floor)**
- **Differential algorithmic functioning: A framework for evaluating fairness in algorithmic decision making**
  - Dr. Youmi Suk

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### Presidential Address: Prof. Jeff Douglas

**Some dichotomies in restricted latent class models for diagnostic classification**

**Chair:** Prof. David Kaplan

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### Coffee Break

**Charles C. Carroll (Second Floor)**

**Colony Ballroom (Second Floor)**

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**Friday • July 28**

**All Times Listed in Eastern Time**
Meeting of the Members, Awards, and Closing Ceremony
Chair: Prof. Carolyn Anderson

Off-site Location: International Spy Museum | 700 L’Enfant Plaza SW, Washington, DC 20024

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.