IMPS 2023

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

Schedule at a Glance

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

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

All Times Listed in Eastern Time	# Monday • July 24

Full-Day Short Courses **9:00 a.m. - 5:00 p.m.**	**Juan Ramon Jimenez (Second Floor)**	**Margaret Brent (Second Floor)**
	Short Course #1: **From Collecting Log-data to Analyzing Process Indicators with logLime R packageLog Data** Speaker: Dr. Tomasz Zoltak 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	**Short Course #2:** **Computerized Adaptive Testing and Multistage Testing with R** Speakers: Dr. Alina Von Davier and Dr. Duanli Yan 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

6:30 p.m. - 8:30 p.m.	**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.

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

Colony Ballroom (Second Floor)

Welcome

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

Colony Ballroom (Second Floor)
Invited Talk: Dr. Ed Merkle
Progress and Pitfalls in Bayesian Latent Variable Models
Chair: Prof. Steven Culpepper

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

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

Charles C. Carroll (Second Floor)

Coffee Break

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. Zhongtian 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

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. 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

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. 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. 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 Vanhasbroeck

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)**	**Charles C. Carroll (Second Floor)**
	Group Photo (2:00 - 2:15)	**Coffee Break (2:15 - 2:30)**
	All attendees welcome!	

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

Colony 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. Xiuxiu 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. Yunting Liu

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

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 Equating
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

IRTree 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

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. Roti Chakraborty

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

TUESDAY CONTINUED 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	7777 Baltimore Ave, College Park, MD 20740; Room: Calvert Ballroom Salon A&B**
	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.**

Photo courtesy of Radhika Kshirsagar

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

Atrium (First Floor)

Session: Process Data
Chair: Dr. 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

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

Thurgood Marshall (Second Floor)

Session: Bayesian Methods
Chair: Dr. Tracy Sweet

Bayesian location-scale model for assessing reliability differences with ordinal ratings
Mr. František Bartoš

Further examination of fully Bayesian information criteria for mixture IRT models
Dr. Rehab AlHakmani

Bayesian nonparametric latent class analysis for different item types
Mr. Meng Qiu

Bayesian Approaches to Quantifying the Practical Impact of Measurement Non-invariance: Extending dMACS
Mr. Conor Lacey

How does prior distribution affect model fit indices of BSEM
Ms. Yonglin Feng

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

Colony Ballroom (Second Floor)

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

Atrium (First Floor)

State of the Art Speaker: Dr. Qiwei (Britt) He
Sequence Mining Methods for Process Data Exploration
Chair: Prof. Carolyn Anderson

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

Attendee Lunch (On Your Own)

Lunch Break
Refer to the Where to Dine @UMD Map

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

Colony Ballroom (Second Floor)

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

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

Colony Ballroom (Second Floor)

Symposium: Response time modeling: Inference, evaluation, and new modeling approaches
Chair: Dr. Hyeon-Ah Kang

Response time modeling: Inference, evaluation, and new modeling approaches
Dr. Hyeon-Ah Kang

Deep Learning Approaches for Factor Analysis of Responses and Response Times
Dr. Rudolf Debelak

Assessing the fit of response time factor models by generalized residuals
Ms. Youjin Sung

Gaussian graphical model for evaluating local item dependency in response times
Dr. Hyeon-Ah Kang

Modeling omissions in tests as dependent on previous test behavior
Mr. Augustin Mutak

Atrium (First Floor)

Session: Validity and Reliability
Chair: Dr. Tim Moses

How are item difficulties and item discriminations related? Does that matter?
Dr. Sandip Sinharay

Exploring Attenuation of Reliability in Categorical Subscore Reporting
Dr. Richard Feinberg

Exploring response biases in rating scales data with interaction map
Mr. Jinwen Luo

Impact of ignoring rater effects in objective structured clinical examinations
Dr. Daniel Edi

Extending reliability to intensive longitudinal data with the Kalman filter
Dr. Michael Hunter

Prince George's Room (First Floor)

Session: Machine Learning
Chair: Prof. Hong Jiao

Classifying normal and aberrant behaviors through machine learning
Ms. Suhwa Han

Neural networks approach to estimate IRT models in small samples
Dr. Dmitry Belov

Online calibration for P-MCAT: A neural network based approach
Dr. Lu Yuan

Validating automated methods for measuring psychological constructs in text
Mr. Daniel Low

Benjamin Banneker (Second Floor)

Session: Multidimensional IRT
Chair: Prof. Chun Wang

Application of MCMC algorithm with Davidian curve in Multidimensional IRT models
Dr. Xue Zhang

Accommodating curvilinear unidimensional approximations to multidimensionality: IRT modeling implications
Ms. Xiangyi Liao

Multidimensional Beta Factor Analysis for Bounded and Asymmetric Item Response Data
Mr. Alfonso J. Martinez

Multidimensional Item Response Tree Model and Its Application to Investigating Response Styles
Dr. Biao Zeng

Method Effects of Item Wording: MIRT Estimation Based on Equivalence Method
Dr. Biao Zeng

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

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 Seon Lim

Decision-making when representing survey data: Is one dimension enough?
Mx. 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

Charles C. Carroll (Second Floor)

Coffee Break

4:15 p.m. - 5:30 p.m.

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. Jiangang Hao

Atrium (First Floor)

Session: Machine Learning
Chair: Dr. Gongjun Xu

Reconceptualizing Idiographic and Nomothetic Relations in Dynamic Models Powered by Machine Learning Methods: Implications on Causality Inference
Dr. Sy-Miin 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. Mingying 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. Irini 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)
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

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

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
Mr. Che Cheng

A familiy of discrete kernels for presmoothing
Dr. Jorge González

Nonparametric estimation of the risk or rate ratio in rare events meta-analysis with arm-based and contrast-based approaches
Prof. Heinz Holling

Equivalence test and sample size procedures for ANCOVA designs
Dr. Gwowen Shieh

Maximum likelihood estimation using a possibly misspecified parameter redundant model
Dr. Richard M. Golden

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

Charles C. Carroll (Second Floor)

Coffee Break

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

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

Attendee Lunch (On Your Own)

Lunch Break
Refer to the Where to Dine @UMD Map

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. Di Jody Zhou

A Bayesian mixture multilevel vector autoregressive model
Ms. Xingyao Xiao

Identifying and Explaining Sample Heterogeneity in Dynamic Psychological Processes Using ml-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 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. Sunhyoung 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 Henry

Power Considerations in Dynamic Structural Equation Models
Mr. Hyungeun 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

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. Bea Margarita Ladaga

Improving Cognitive Diagnosis in Small Samples with Catalytic Priors
Mr. David Arthur

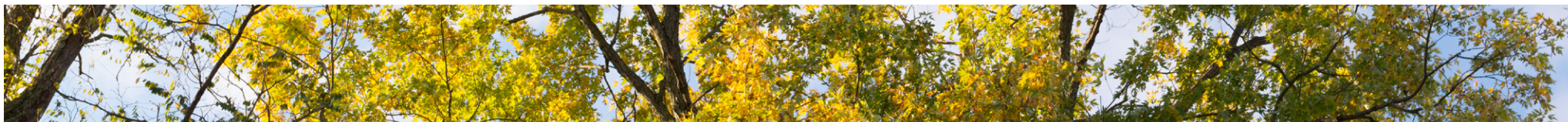**Identifiability of Cognitive Diagnosis Models with Polytomous Responses**
Ms. Mengqi Lin

Partially Confirmatory Q Learning for Distinguishable Attribute Importance in the Compensatory CDMs
Ms. Yunting Liu

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

Colony Ballroom (Second Floor)

Early Career Award Speaker: Prof. Gongjun Xu
Identifiability of Cognitive Diagnosis Models
Chair: Prof. Jeff Douglas

Charles C. Carroll (Second Floor)

Coffee Break

4:15 p.m. - 5:30 p.m.

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. Amirreza 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. 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. 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
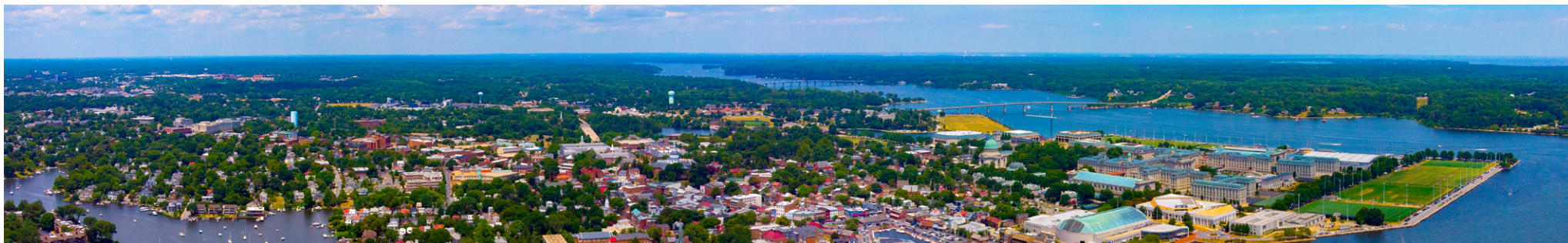Dr. Zsuzsa Bakk

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

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

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 Belov

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. 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)

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

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

Charles C. Carroll (Second Floor)

Coffee Break

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

Colony Ballroom (Second Floor)

Presidential Address: Prof. Jeff Douglas
Some dichotomies in restricted latent class models for diagnostic classification
Chair: Prof. David Kaplan

Colony Ballroom (Second Floor)

Meeting of the Members, Awards, and Closing Ceremony
Chair: Prof. Carolyn Anderson

6:15 p.m. - 10:30 p.m.

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.

Photo courtesy of Rogers Stirk Harbour + Partners (RSHP)

FIRST FLOOR (1F)

- Nanticoke
- STAMP Gallery
- IMPS Registration Desk
- Grand Ballroom Lounge
- Grand Ballroom
- Atrium
- Prince George's Room
- SOUTH WEST ENTRANCE
- West Lounge
- Info. Desk
- The Coffee Bar
- MAIN ENTRANCE
- SOUTH ENTRANCE

SECOND FLOOR (2F)

- Thurgood Marshall
- Margaret Brent
- Colony Ballroom
- Charles Carroll
- Benjamin Banneker
- Exhibit Hall/ Refreshment Break Area
- Harriet Tubman
- Pyon Su
- One Button Studio
- Calvert
- Crossland
- Juan Ramon Jimenez

GROUND FLOOR (G)

Hoff Theater

Ticket Office

Maryland Dairy Ice Cream

Open Work Space for Public Use

WEST ENTRANCE

SOUTH WEST ENTRANCE

Chick-fil-A

Hibachi San

QDOBA

Panda Express

Food Court

Salad-works

Moby Dick Freestyle

Union Pizza

The UPS Store

The Union Shop

EAST ENTRANCE

University Book Center

M&T Bank

SOUTH EAST ENTRANCE

STAIRS/ELEVATOR TO BASEMENT UNIVERSITY BOOK CENTER

BASEMENT (B)

SUB-BASEMENT ENTRANCE

NORTH ENTRANCE

Studio A

North Atrium

LOADING DOCK

Activities Room

TerpZone

University Book Center

NORTH EAST ENTRANCE (NEXT TO NYUMBURU CENTER)

Subway

STAIRS TO GROUND FLOOR SOUTH WEST ENTRANCE

STAIRS/ELEVATOR TO GROUND UNIVERSITY BOOK CENTER