University of Minnesota • Minneapolis, MN, USA

July 15-18, 2025 • Short Courses July 14

IMPS Registration & Continential Breakfast Hours

Graduate by Hilton Minneapolis

Top of the Escalators Foyer (Second Floor)
615 Washington Ave SE, Minneapolis, MN 55414

Monday, July 14	Tuesday, July 15	Wednesday, July 16	Thursday, July 17	Friday, July 18
Registration Hours: 8:00 a.m. - 11:00 a.m. and 1:30 p.m. - 5:30 p.m.	Registration Hours: 7:30 a.m. - 4:30 p.m.	Registration Hours: 7:30 a.m. - 5:00 p.m.	Registration Hours: 7:30 a.m. - 4:30 p.m.	Registration Hours: 7:30 a.m. - 3:30 p.m.
Breakfast Hours: 8:00 a.m. - 9:00 a.m.	Breakfast Hours: 8:00 a.m. - 9:00 a.m.	Breakfast Hours: 8:00 a.m. - 9:00 a.m.	Breakfast Hours: 8:00 a.m. - 9:00 a.m.	Breakfast Hours: 8:00 a.m. - 9:00 a.m.

All Times Listed in Central Time

Monday • July 14

Room 1

9:00 a.m. - 5:00 p.m.
Short Course #1:
Bayesian Psychometric Modeling and Blavaan
Speakers: Prof. Ed Merkle

9:00 a.m. - 10:30 a.m. • Short Course
10:30 a.m. - 10:45 a.m. • Refreshment Break
10:50 a.m. - 12:00 p.m. • Short Course
12:00 p.m. - 1:30 p.m • Lunch Break
1:30 p.m. - 3:00 p.m. • Short Course
3:00 p.m. - 3:15 p.m. • Refreshment Break
3:15 p.m. - 4:45 p.m. • Short Course
4:45 p.m. - 5:00 p.m. • Q&A

Room 2

9:00 a.m. - 5:00 p.m.
Short Course #2:
Cognitive Diagnosis Models: Theory and Applications in R
Speakers: Dr. Wenchao Ma, Prof. Jimmy de la Torre, and Dr. Sangbeak Ye

9:00 a.m. - 10:30 a.m. • Short Course
10:30 a.m. - 10:50 a.m. • Refreshment Break
10:50 a.m. - 12:10 p.m. • Short Course
12:10 p.m. -1:10 p.m. • Lunch Break
1:30 p.m. - 3:10 p.m. • Short Course
3:10 p.m. - 3:30 p.m. • Refreshment Break
3:30 p.m. - 4:50 p.m. • Short Course
4:50 p.m. - 5:00 p.m. • Wrap-up

Room 3

9:30 a.m. - 12:30 p.m.
Short Course #3:
Modeling Item-Level Heterogeneous Treatment Effects: A Tutorial in R
Speakers: Dr. Joshua Gilbert

9:30 a.m. - 11:00 a.m. • Short Course
11:00 a.m. - 11:15 a.m. • Refreshment Break
11:15 a.m. - 12:30 p.m. • Short Course

Room 3

2:00 p.m. - 5:30 p.m.
Short Course #4:
Development of Interactive Shiny Modules for Psychometric Research Dissemination
Speakers: Dr. Patrícia Martinková & Dr. Jan Netík

2:00 p.m. - 3:30 p.m. • Short Course
3:30 p.m. - 4:00 p.m. • Refreshment Break
4:00 p.m. - 5:30 p.m. • Short Course

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

Topgolf Swing Suite (In The Graduate Hotel) | Address: 615 Washington Ave SE, Minneapolis, MN 55414

Graduate Student Dinner Mixer

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

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

Room 1

Welcome: Prof. Denny Borsboom, Prof. Nidhi Kohli, Prof. Michael Rodriguez, and Prof. Anne Foegen

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

Room 1

Keynote Address: Prof. Steve Marron

Data Integration Via Analysis of Subspaces

Chair: Matthias von Davier

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

Meridian Ballroom Foyer

Refreshment Break

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

Room 1

Session: Artificial Intelligence I
Chair: He Ren

A critical evaluation of similarity indices for psychometric research
Mr. Josiah Hunsberger

Enhancing item parameters prediction with transfer learning
Dr. Mingfeng Xue

Evaluating the capabilities of large language models in evidence synthesis
Ms. Yuchen Zhang

Item evaluation using LLM-respondents: A psychometric analysis with open-source data
Ms. Yunting Liu

Room 2

Session: Methods for Aberrant Behaviors
Chair: Daniel Bolt

Evaluating rapid guessing as noninformative about respondent proficiency
Prof. Daniel Bolt

Integrating disengagement identification into response style modeling: Response times matter
Mr. Jieyuan Dong

Detecting aberrant responses using a general mixture model for cognitive diagnosis
Mr. Joemari Olea

A beta mixture model for careless respondent detection in visual analogue scale data
Ms. Lijin Zhang

Room 3

Session: Advances in Parameter Estimation
Chair: Matthias von Davier

Higher-order extended variational approximation to estimate latent variable models
Prof. Björn Andersson

Resolving computational challenges of SEMs with big data using a divide-and-conquer approach to Bayesian synthesis
Prof. Katerina Marcoulides

Likelihood ratio tests with marginal maximum likelihood using laplace approximations and adaptive quadrature
Ms. Lu Zhang

An improved Satterthwaite (1941, 1946) effective df Approximation
Prof. Matthias von Davier

Calibrated frequentist inference by stochastic approximation
Prof. Yang Liu

Room 4

Session: Multilevel Modeling
Chair: Siyuan Chen

Careless responding in intensive longitudinal data: Effects on multilevel models
Ms. Alicia Gernand

The use of a multilevel multiple-indicators random-intercept cross-lagged panel model in college student goal pursuit
Dr. Hiroki Matsuo

What if sample size is the confound in multilevel models?
Mr. Michael Truong

Estimating reliability using unbiased variance components in a nested design with group-specific distributions
Dr. Siyuan Marco Chen

Multilevel model ICCs: Issues with reduced-model computation and full-model-based solutions
Ms. Yingchi Guo

Room 5

Session: Conceptual Issues in Measurement
Chair: Derek Briggs

From interval scales to scales with intervals
Prof. Derek Briggs

Tailoring educational assessments for varied student demographics: An initial exploration
Dr. Sandip Sinharay

An update on Jaeger & Hendricks: Publishing in psychological measurement
Mrs. Victoria Quirk

Room 6

Session: Construct Validity, Past and Present: From Meehl and Minnesota to Beyond
Chair: Alan Love

Honoring the Minnesota legacy of Paul Meehl, this session features a panel discussion on construct validity with short opening remarks from participants (philosophers and psychometricians), followed by an open conversation with the audience.

Participants include Bennett McNulty, Jessica Flake, Susan Embretson, Noah van Dongen, Alan Love, and Denny Borsboom.

Room 7

Session: Item Response Theory I
Chair: Nana Kim

Classifying respondents' item-specific strengths with an interaction map approach
Dr. Jinwen Luo

Unexplained item-person interactions due to heterogeneous item discriminations across individuals
Dr. Nana Kim

Impact of item locations on parameter recovery with the GGUM
Ms. Nicole Bonge

Exposome burden scores to summarize environmental chemical mixtures: Creating a common scale for cross-study harmonization, report-back and precision environmental health
Dr. Shelley Liu

Integrating multidimensional scaling into the multidimensional generalized graded unfolding model
Ms. Zhaoyu Wang

TUESDAY CONTINUED
12:00 p.m. - 1:30 p.m.

Lunch (On Your Own)

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

Room 1

Invited Speaker: Prof. Hongyun Liu & Prof. Yueqin Hu
Exploring Intensive Longitudinal Data Analysis: Challenges and Advances in Measurement and Modeling
Chair: Ying (Alison) Cheng

Room 2

Invited Speaker: Prof. Nidhi Kohli
Bayesian Longitudinal Mediation Models
Chair: Sophia Rabe-Hesketh

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

Room 1

Session: Bayesian Methods and Their Applications
Chair: David Kaplan

Estimating marginal effects with zero-inflated Poisson models
Mr. Chendong Li

Probabilistic projections of country-level progress to the UN SDG indicator of minimum proficiency in reading and mathematics
Prof. David Kaplan

Fast and efficient robust Bayesian meta-analysis with spike-and-slab priors
Mr. František Bartoš

An innovative way of estimating subgroups mean estimates: SABDB
Dr. Sinan Yavuz

Multilevel heterogeneous factor model with fixed covariates
Ms. Meijin Lin

Room 2

Session: Applications of Cognitive Diagnostic Models
Chair: Wenchao Ma

Analyzing teacher mathematics skills using cognitive diagnosis modeling
Mr. Nurym Shora

An empirical comparison of cognitive diagnosis model and multidimensional IRT
Prof. Wenchao Ma

The choice between cognitive diagnosis and item response theory: A case study from medical education
Prof. Youn Seon Lim

Cognitive diagnostic models for measuring 21st century skills
Ms. Kristin Lansing

Room 3

Session: Differential Item Functioning and Measurement Invariance I
Chair: Qingzhou Shi

Evaluation of partial measurement invariance under sparse ordinal indicators using induced Dirichlet threshold priors
Mr. Fatih Ozkan

Statistical analysis of large-scale item response data under measurement non-invariance: A new alignment method and its application to PISA 2022
Dr. Jing Ouyang

Machine learning methods for differential item functioning:
A systematic review
Mr. Mubarak Mojoyinola

Investigating CogAT 7: Intersectional measurement invariance using ASEM
Dr. Qingzhou Shi

Can measurement invariacne be estabilished in a non-ergodic situation?
Mr. YeongJin Jo

Room 4

Session: Process Data Analysis
Chair: Tracy Sweet

Advancing behavioral pattern clustering with time-warped longest common subsequence method on process data
Dr. Qiwei He

Understanding the evolution of individual response process: An exploratory approach
Ms. Ruiting Shen

A Copula-based joint model for item responses and response times
Mr. Sunbeom Kwon

Modeling process data using latent space models
Dr. Tracy Sweet

A utility-maximization framework for joint modeling of time and accuracy
Dr. Weicong Lyu

Room 5

Session: Clustering Analysis
Chair: Paul Wesley Scott

Thresholding method for identifying anomalies in wellbeing time series data
Dr. Marie Turcicova

Clustering experience sampled time series with deterministic and stochastic trends
Dr. Paul Wesley Scott

Understanding psychological temporal patterns: Clustering time-series data and its challenges
Ms. Yuanyuan Ji

Room 6

Session: Dynamic Value Added Models
Chair: Ernesto San Martin

Dynamic value-added in school effectiveness: A model-free approach
Dr. Sebastien Van Bellegem

Temporally dynamic, cohort-varying value-added models
Dr. Ernesto San Martin

Bayesian approach to modeling dynamic group membership in nonlinear random effects models
Prof. Nidhi Kohli

Room 7

Session: What Can Parameter Moderation do for You?
Chair: Sanford Student

Improving the evaluation of construct change over time: Comparing longitudinal moderated nonlinear factor analysis to the conventional first-order growth model
Dr. Siyuan Marco Chen

Advancing a general framework of parameter moderation
Dr. Ethan McCormick

Individual variability as a moderator of latent structural relations
Mr. Joshua R. Shulkin

Generalizing the specification and estimation of item heterogeneity models with parameter moderation
Dr. Sanford Student

TUESDAY CONTINUED
3:45 p.m. - 4:15 p.m.

Meridian Ballroom Foyer

Refreshment Break

4:15 p.m. - 5:00 p.m.

Room 1

Dissertation Award Speaker: Dr. Mark Himmelstein
Measuring Persuasion Without Measuring a Prior Belief: A New Application of Planned Missing Data Techniques
Chair: David Kaplan

5:15 p.m. - 7:15 p.m.

Memorial Hall of McNamara Center | Address: 200 SE Oak St, Minneapolis, MN 55455

Welcome Reception

5:15 p.m. - 7:15 p.m. • Welcome Reception

5:30 p.m. • Welcome Remarks
Prof. Nidhi Kohli, Prof. LeAnne Johnson, and Prof. Frank Symons (UMN)

5:45 p.m. - 7:15 p.m. • Poster Session

This year's Welcome Reception is in combination with the Poster Session. Enjoy light appetizers, a cash bar, an appearance by Goldy the Gopher - UMN Mascot, all while presenters will be at their posters for attendees to explore a diverse collection of psychometric research.

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

Room 1

Session: Mediation Analysis
Chair: Qijin Chen

On structural misspecifications in latent variable mediation analysis
Mr. Bing Cai Kok

Advancing multiple-group mediation using Bayesian regularization
Ms. Emma Somer

Nonlinear mediation model with Bayesian p-splines
Dr. Qijin Chen

Investigating the impact of cross-loadings on model fit and mediation inferences in the latent mediator model
Ms. Qiulin Lu

Longitudinal heterogeneous mediation analysis with latent mediators and a time-to-event outcome
Dr. Rongqian Sun

Room 2

Session: Cognitive Diagnostic Models I
Chair: Jonathan Templin

Development of robust estimation methods for cognitive diagnosis
Dr. Daxun Wang

Bayesian criterion-referenced diagnostic classification models
Dr. Jonathan Templin

A Bayesian semi-parametric framework for cognitive diagnostic models
Mr. Michel Cordoba

Model-based differential item functioning detection in cognitive diagnostic assessments
Ms. Song Zhili

Room 3

Session: Computer Adaptive Testing I
Chair: Susan Embretson

Variable-length fully Bayesian adaptive testing and its stopping criteria
Dr. Luping Niu

A Two-Level Adaptive Testing with Polytomous Items
Prof. Seung Choi

Item parameter estimates with non-ignorable missing data patterns in CATs
Dr. Steven Nydick

Linear-on-the-fly testing (LOFT): Which design to choose?
Prof. Susan Embretson

Efficient online item parameter estimation in small-sample CAT using gradient descent methods
Dr. Zichu Liu

Room 4

Session: IRT Estimation
Chair: Seock-Ho Kim

Joint consistency of a multidimensional nonparametric continuous response model
Mr. Mauricio Castillo

Generative adversarial networks for high-dimensional item factor analysis
Mr. Nanyu Luo

Some standard errors of the polytomous item response theory models
Prof. Seock-Ho Kim

Weighted likelihood estimator and its standard errors for sequential IRT models
Mr. Yikai Lu

Room 5

Session: Network Models I
Chair: Hao Luo

Comparing symptom network structure across multiple psychiatric disorders
Dr. Hao Luo

[Degree] distributions in psychological networks
Dr. Jonathan Park

Neighborhood selection in cross-sectional network analysis for ordinal data
Mr. Kai Jannik Nehler

The impact of measurement error in dynamic network models
Ms. Reeta Kankaanpää

The invariance partial pruning approach to the network comparison in longitudinal data
Mr. Xinkai Du

Room 6

Session: Generative Psychometrics: Advancing Psychological Scale Development Through Large Language Models
Chair: Hudson Golino

AI-GENIE: A simulation study on the fully automatic scale development methodology
Ms. Lara Russell-Lasalandra

Empirical validation of AI-GENIE
Dr. Alexander Christensen

Optimizing LLM embeddings for automatic item development and validation
Dr. Hudson Golino

Room 7

Session: Validity
Chair: Yifang Wu

Decomposing the predictive capacity of a selection test
Dr. Eduardo Alarcón-Bustamante

Psychometric measurement of forecasters using the wisdom of the crowd
Ms. Jessica Helmer

Understanding the predictive capacity of admission test scores across the scale
Mr. Pablo Espinoza

Latent structure discovery in 3D science CAT via matrix factorization
Dr. Yi-Fang Wu

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

Meridian Ballroom Foyer

Refreshment Break

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

Room 1

Career Lifetime Achievement Award: Prof. Shizuhiko Nishisato
Reminiscing Controversies Over Joint Graphical Display in Quantification
Chair: Francis Tuerlinckx

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

Lunch (On Your Own)

WEDNESDAY CONTINUED 1:30 p.m. - 2:45 p.m.

Room 1

Session: Artificial Intelligence II
Chair: Ting Wang

Artificial neural networks excel in predicting missingness in psychometric data
Mr. Longfei Zhang

Using knowledge graphs to better understand test construction
Dr. Magdalen Beiting-Parrish

Enhancing model generalizability for understanding CPS behaviors across different tasks: A large language model-based approach
Prof. Mengxiao Zhu

Enhancing citation accuracy: Leveraging the NCBI API to verify and correct AI-generated references
Dr. Ting Wang

Room 2

Session: Cognitive Diagnostic Models II
Chair: Jimmy de la Torre

Evaluating the classification accuracy of an adaptive diagnostic test
Mr. Ahmed Bediwy

A Hamiltonian-Gibbs sampler with monotonicity constraints for diagnostic classification models
Dr. Alfonso Martinez

Consistency theory of general nonparametric classification methods in cognitive diagnosis
Mr. Chengyu Cui

Increasing the flexibility of the MC-DINA model
Prof. Jimmy de la Torre

Examining the occurrence of paradoxical scoring in cognitive diagnostic models
Mr. Tsuyoshi Kato

Room 3

Session: Methods for Dynamic and Complex Data
Chair: Sy-Miin Chow

The hidden journey of affect dynamics: Bridging physiological and behavioral states through Markovian processes
Dr. Francesca Borghesi

Optimizing ESM prompt timing with mobile sensing: Predicting non-compliance using behavioral and contextual data
Dr. Koen Niemeijer

Interpreting parameters of dynamic regression models
Dr. Sigert Ariens

Accounting for interindividual differences in intensive longitudinal data from new samples using pre-learned embeddings in machine learning models
Dr. Sy-Miin Chow

Room 4

Session: Item Response Theory II
Chair: Ken Fujimoto

Comparing fit indices for predicting difficulty of automatically generated items
Mr. Haoyang Yu

Optimal designs for Thurstonian IRT models based on linear paired comparisons
Prof. Heinz Holling

Estimating the primary dimensional correlations of nested-dimensionality data structures
Dr. Ken Fujimoto

Asymptotic standard errors for reliability coefficients in item response theory
Ms. Youjin Sung

Room 5

Session: Longitudinal Data Analysis I
Chair: Satoshi Usami

Using recency to improve scoring in longitudinal assessments
Mr. Aaron Myers

Cost-effective ESM studies: Integrating budget constraints into sample size decisions
Mr. Jordan Revol

Matrix decomposition SEM tree
Dr. Naoya Todo

Condence interval-based determinations for pptimal sample sizes and designs in a random intercept panel model
Dr. Satoshi Usami

Examining item discrimination in growth measurement: A multilevel perspective
Prof. Xiangyi Liao

Room 6

Session: Perspectives from the Inaugural Meeting of the Society for the Study of Measurement
Chair: Mark Wilson

Mapping out the hexagon measurement framework in the human sciences
Prof. Mark Wilson

How uncertainty allows measurement to produce useful results
Dr. Kent Staley

Re-interpreting the Weber-Fechner law as a probabilistic measurement model
Dr. William Fisher

Room 7

Session: Structural Equation Modeling I
Chair: Francis Tuerlinckx

Statistical curvature and algorithmic convergence in factor models
Dr. Francis Tuerlinckx

A empirical Bayesian solution to the estimation of the covariance matrix of sample covariances in SEM
Dr. Hao Wu

Robust estimation of structural equation models
Dr. Max Welz

Bayesian item factor analysis when indicator variables have skewed marginal distributions
Dr. Noah Padgett

Regularized exploratory structural equation modeling for multiblock data
Ms. Tra Le

2:45 p.m. - 3:15 p.m.

Meridian Ballroom Foyer

Refreshment Break

WEDNESDAY CONTINUED
3:15 p.m. - 4:30 p.m.

Room 1

Session: Adaptive Assessment and Learning
Chair: Hyeon-Ah Kang

Latent propensity modeling of hint-seeking behavior in intelligent tutoring systems
Dr. Hyeon-Ah Kang

Bayesian adaptive learning assessment for efficient skill acquisition
Dr. Sangbeak Ye

Personalized adaptive, dynamic, and formative assessment in statistics education
Dr. Wilco Emons

Integrating cognitive diagnosis and generative AI for personalized learning
Mr. Yuxiao Zhang

Room 2

Session: Differential Item Functioning and Measurement Invariance II
Chair: Brandon LeBeau

Machine learning approaches to item-level bias detection
Dr. Brandon LeBeau

Detecting differential item functioning in forced-choice models with misspecification
Dr. Jacob Plantz

A two-step method for detecting differential item functioning
Ms. Qing Zeng

A neural network approach to small sample intersectional DIF detection
Mr. Yale Quan

DIF detection in ordinal survey data without pre-specified groups or anchors
Dr. Gabriel Wallin

Room 3

Session: Missing Data
Chair: Victoria Savalei

DSEM with missing not at random intensive longitudinal data
Dr. Daniel McNeish

Using factor scores estimated with missing data
Dr. Ehri Ryu

Methods for pooling K-means clustering results in multiply imputed data
Dr. Joost Van Ginkel

Optimal approaches for treating item-level missing data in composite-level models
Dr. Victoria Savalei

Room 4

Session: Practical Issues in Testing: Norming, Equating, ATA and fairness
Chair: Jorge Gonzalez

Vectorizing test constraints for faster automated test assembly
Dr. Anthony Shiver

Integrating latent variables into test equating methods
Ms. Inés Varas

Analyzing identifiability in statistical models for test equating
Prof. Jorge Gonzalez

Regression-based norming of tests with small sample sizes
Dr. Nicolas Sander

Bayesian augmentation for real-time fairness monitoring in assessments
Mr. Shea Valentine

Room 5

Session: Machine Learning
Chair: Yuqi Gu

Use factor-augmented regularized latent regression to analyze complex large-scale assessment
Mr. He Ren

Personalized predictive modeling with Bayesian nonparametric ensemble learning
Ms. Mingya Huang

A two-step imputation approach combining IRT and deep-learning methods in large-scale survey assessments
Dr. Usama Ali

Generalized grade-of-membership estimation for high-dimensional locally dependent data
Dr. Yuqi Gu

Room 6

Session: Making Sense of High-Dimensional Data in the Psychological Sciences
Chair: Nathaniel Hellwig

Multiple linked tensor factorization
Prof. Eric Lock

Classifying alcoholism from electroencephalography data using high-dimensional logistic regression
Mr. Jong Won Lee

Capturing fluctuations in high-dimensional intensive longitudinal data
Prof. Katerina Marcoulides

Predicting attention problems from brain connectivity using high-dimensional Poisson regression
Dr. Kelly Duffy

High-dimensional regression and classification of psychological data
Prof. Nathaniel Helwig

4:45 p.m. - 5:30 p.m.

Room 1

Invited Speaker: Dr. Matthew Madison
Diagnostic Classification Models: Advancement Through Simplicity
Chair: Dan Bolt

Room 2

Invited Speaker: Dr. Jessica Flake
Methodological Research for the Open Science Era
Chair: Mijke Rhemtulla

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

Room 1

Session: Automated Scoring
Chair: JiHoon Ryoo

Comparison of rating accuracy and rationales between AI ratings and human ratings of AP Chinese essays
Mr. Haowei Hua

Evaluating the accuracy, reliability, and applicability of multiple large language models in automated scoring for writing assessments
Mr. Henry S. Makinde

Improving automated scoring in reading assessments: Compress first, score next
Dr. Ji Yoon Jung

Investigation of NLP and ML-based algorithms for automated essay scoring
Prof. JiHoon Ryoo

Room 2

Session: Longitudinal Cognitive Diagnostic Models
Chair: Kazuhiro Yamaguchi

Development and application of the random effect diagnostic classification multilevel growth curve model
Dr. Kazuhiro Yamaguchi

Longitudinal designs for diagnostic models: Identification and estimation
Mr. Trung Le

A statistical framework for dynamic cognitive diagnosis in digital environments
Ms. Yawen Ma

Room 3

Session: Computer Adaptive Testing II
Chair: Huahua Chang

Leveraging computerized adaptive testing (CAT) to overcome teaching and learning challenges in gateway STEM courses at U.S. universities
Dr. Hua-Hua Chang

You can't tuna fish, but can you tune a CAT?
Mr. Joseph DeWeese

Incorporating omission behaviors into computerized adaptive testing: A psychometric evaluation using IRTree models
Ms. Lixin (Lizzy) Wu

Post-hoc multiple comparison tests in adaptive measurement of change
Mr. Raj Wahlquist

Room 4

Session: Causal Inference I
Chair: Wen Luo

Between-case incidence rate ratio: A design comparable effect size for count outcomes in single case experimental designs
Dr. Wen Luo

Between-case incidence rate ratio for count outcomes in single case experimental designs: A Monte Carlo simulation
Dr. Haoran Li

Using regression discontinuity to evaluate language learner reclassification
Dr. Hirotaka Fukuhara

Causal inference in high dimensional settings via sparse autoencoders for improved propensity scores estimation.
Mr. Roberto Faleh

Causal decomposition analysis with synergistic interventions: A triply-robust machine learning approach to addressing multiple dimensions of social disparities
Ms. Su Yeon Kim

Room 5

Session: Novel IRT Models
Chair: Leah Feuerstahler

Defining asymmetric item response theory
Dr. Leah Feuerstahler

Bayesian IRT for continuous measurement of student proficiency
Dr. Logan Rome

Extending the Quasi-Poisson IRT model: On choosing latent structure
Dr. Nelis Potgieter

Modeling dynamic test-taking behavior: a response time based HMM-IRT approach
Dr. Rehab AlHakmani

The two-parameter Quasi-Poisson item response theory model
Dr. Xin Qiao

Room 6

Session: Revision of the 2014 Standards for Educational & Psychological Testing: Updates and Input
Chair: Michael Rodriguez

Members of the committee tasked with the revision of the Standards for Educational and Psychological Testing will provide an overview of the revision process, followed by an open conversation with the audience.

Participants include Michael Rodriguez, Kristen Huff, Fred Oswald, Andy De Los Reyes, Ye Tong, and other members of the committee.

Room 7

Session: Bayesian Methods and Their Applications
Chair: Sophia Rabe-Hesketh

Evaluating strategies for handling label switching in Bayesian latent variable models
Dr. Lihan Chen

Prior sensitivity in Bayesian structure learning of Gaussian graphical models
Mr. Marwin Carmo

Infinitesimal Jackknife standard errors for Bayesian quantile regression and other misspecified models
Dr. Sophia Rabe-Hesketh

Are Bayesian regularization methods a must for multilevel dynamic latent variables models?
Mr. Vivato Vahatriniaina Andriamiarana

Bayesian graphical models for factorial correlation estimation
Ms. Yifan Zhang

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

Meridian Ballroom Foyer

Refreshment Break

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

Room 1

Keynote Speaker: Prof. Carolyn Anderson

Association and Measurement Models for Categorical Data

Chair: Sy-Miin Chow

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

Lunch (On Your Own)

1:30 p.m. - 2:45 p.m.

Room 1

Session: Artificial Intelligence III
Chair: Xijuan Zhang

Adapting transformers to wording-based item difficulty prediction
Mr. Jan Netík

Automated cognitive feature generation: LLM applications in item difficulty modeling
Mr. Mubarak Mojoyinola

Differential embedding dimension functioning in natural language processing for psychological assessment
Mr. Pengda Wang

Using a psychometric approach to design AI agents with personality under different scale formats
Dr. Xijuan Zhang

Enhancing systematic review efficiency: A generative AI-powered data extraction pipeline
Ms. Xiyu Wang

Room 2

Session: Computer Adaptive Testing III
Chair: Andries Van der Ark

Adaptive tests and questionnaires using online survey tools
Dr. Andries Van der Ark

Issues in calibrating post operational CAT data
Dr. Eric Loken

Directionally-weighted loss functions for shaping multistage adaptive testing item modules
Dr. Matthew Naveiras

Baseline scores and testing mode influence responder thresholds: A comparison of coefficients of repeatability between PROMIS computer adaptive tests and short forms
Dr. Minji Lee

Computer adaptive testing for ecological momentary assessment: Considerations and evaluations
Dr. Teague Henry

Room 3

Session: Model-Data Fit
Chair: Daniel McNeish

Recent developments in dynamic fit index cutoffs for latent variable models
Dr. Daniel McNeish

Cut-off for the deleted-one-covariance-residual case influence measure in the covariance structure analysis
Dr. Fathima Jaffari

Robust methods for computing structural fit indices: A Monte Carlo investigation
Dr. Graham Rifenbark

Can we rely on reliable parameter estimates?
Dr. Niels Vanhasbroeck

A comparison of IRT model fit indices under different misfitting conditions
Mr. Xinyu Liu

Room 4

Session: Moderation and Mediation Analysis
Chair: Zuchao Shen

Assumptions in latent moderation: The role of measurement (non)-invariance
Dr. Kaylee Litson

MNLFA with three or more latent dimensions
Dr. Noah Padgett

Bayesian nonparametric nonlinear moderation model
Dr. Siyi Wang

Cost-efficient sampling strategies for experiments detecting moderation and main effects
Dr. Zuchao Shen

Room 5

Session: Network Models
Chair: Richard Feinberg

Exploring link prediction in social networks
Ms. Apoorva Verma

Psychological networks as scale-free and small-world networks: Insights from large-scale survey data
Dr. Guangyu Zhu

Estimating causal effects on psychological networks using item response theory
Mr. Joshua Gilbert

Item pool maintenance in computer adaptive tests: A network approach
Dr. Klint Kanopka

Using social network analysis to detect and interpret network collusion
Dr. Richard Feinberg

Room 6

Session: Computational Modeling of Psychological Systems
Chair: Ria Hoekstra

Toward a psychologist's guide to computational modeling: An interdisciplinary scoping review of modeling roadmaps
Ms. Jill de Ron

Mapping the dynamics of idiographic network models to the network theory of psychopathology using stability landscapes
Dr. Ria Hoekstra

Unraveling symptom dynamics: A mechanistic approach to feedback loops and causal discovery
Ms. Kyuri Park

sdbuildR: Building system dynamics models in R
Ms. Kyra Evers

Room 7

Session: Tools and Techniques for Quantative methods and Psychometrics
Chair: Andres Christiansen

Bayesian evaluation of latent variable models: A practical tutorial with the R package bleval
Ms. Xiaohui Luo

ILSAmerge and ILSAstats: Two new R packages for international large-scale assessments
Dr. Andrés Christiansen

ShinyFORC: A shiny app for Bayesian probablistic forecasting
Ms. Kjorte Harra

Sequential rank aggregation: An optimal active estimation approach
Prof. Xiaoou Li

THURSDAY CONTINUED
3:00 p.m. - 4:15 p.m.

Room 1

Session: Differential Item Functioning and Measurement Invariance III
Chair: Anne Thissen-Roe

From the roots: Likelihood ratio DIF testing for IRTrees
Dr. Anne Thissen-Roe

Testing and correcting for differential test functioning
Prof. Peter Halpin

Detecting uniform differential item functioning with the permutation test
Mr. Walton Ferguson

Guidelines for the interpretation of NCDIF as an effect size measure
Dr. Víctor H Cervantes

Room 2

Session: Reliability
Chair: Luz Bay

Item-level heterogeneity in value added models: Implications for reliability, cross-study comparability, and effect sizes
Mr. Joshua Gilbert

An intrarater reliability index of modified-Angoff ratings
Dr. Luz Bay

Discretization error in psychological science
Dr. Mathias Berggren

Reliability of unidimensional ordinal scores: Insights from two simulation studies
Prof. Sebastien Beland

Room 3

Session: Latent Class and Mixture Models
Chair: Jang Schiltz

Finite mixture models for an underlying zero-one inflated Beta distribution
Prof. Jang Schiltz

Measuring effort with a multi-level non-hierarchical Gaussian mixture model
Dr. Kirk Vanacore

A mixture multidimensional nominal response model to account for different faking strategies
Mr. Timo Seitz

Bayesian and frequentist model evaluation for growth mixture modeling
Ms. Xingyao Xiao

Room 4

Session: Natural Language Processing
Chair: Jinsong Chen

Uncovering cognitive strategies in tower of London using n-gram analysis
Dr. Alexandre Serpa

Predicting reading passage grades: Text features vs. contextual embeddings
Dr. Ann Hu

Documents are people and words are items: A psychometric approach to textual data with contextual embeddings
Prof. Jinsong Chen

A joint factor-topic model for multimodal survey data analysis
Mr. Yuxiao Zhang

Room 5

Session: Item Response Theory III
Chair: Brooke Magnus

Rethinking discrimination: A marginal effects approach to IRT
Dr. Brooke Magnus

Item response models for rating relational data
Dr. Chih-Han Leng

A generalization of multidimensional item response theory parameters
Dr. Daniel Morillo

An informative index for evaluating equiprecision in IRT-based assessments
Mr. Jesus Delgado

Adapting fisher information-based difficulty and discrimination IRT measures to handle multimodality
Mr. Peter Johnson

Room 6

Session: Bridging Exploratory Graph Analysis and Complexity Science: Advancing the Understanding of Psychological Structures and Dynamics
Chair: Alexander Christensen

Damped linear oscillators in emotion dynamics: Influence of fundamental parameters on dynamic EGA structures
Dr. Aleksandar Tomašević

Taxonomic graph analysis
Dr. Alexander Christensen

The ergodicity information index: Bridging dynamic exploratory graph analysis with complexity science
Dr. Hudson Golino

Room 7

Session: Advances in Experimental Design, Measurement, and Predictive Inference
Chair: Ken Kelley

Best treatment from a set of options: An optimal sequential method for principled experimentation
Dr. Ken Kelley

The psychometrics of uncertainty elicitation for real world forecasting problems
Dr. Mark Himmelstein

Application of conformal prediction in language sample analysis
Mrs. Youmin Hong

Optimal design and analysis strategies for equivalence testing
Dr. Zuchao Shen

Don't let your likert scales grow up to be visual analog scales: Understanding the relationship between number of response categories and measurement error
Ms. Siqi Sun

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

Memorial Hall

Group Photo

4:30 p.m. - 4:45 p.m.

Meridian Ballroom Foyer

Refreshment Break

4:45 p.m. - 5:45 p.m.

Room 1

Early Career Award: Dr. Maria Bolsinova
Psychometrics for Adaptive Learning: Challenges and Solutions
Chair: Andries van der Ark

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

Room 1

Session: Automated Item Generation
Chair: Stella Kim

Automated generation of creativity test items using large language models
Dr. Antonio Laverghetta Jr.

Automatic item generation for figure reasoning tests using generative AI
Ms. Jing Huang

Generating quantitatively grounded free-text using large language models
Ms. Lindley Slipetz

Evaluating cut score consistency in standard setting procedures for automatic item generation testing
Dr. Stella Kim

AI-driven item generation for PIRLS
Dr. Ummugul Bezirhan

Room 2

Session: IRT Applications
Chair: Kensuke Okada

Measuring forecasting proficiency: An item response theory approach
Mr. Fabio Setti

Demographic influences on spatial ability: A 2PL and Rasch tree analysis
Mr. Justice Dadzie

Desirability-matched Thurstonian IRT scale construction leveraging sentiment analysis
Dr. Kensuke Okada

Resource usage and its influence on ability estimation – exploring different IRTree models in the context of PISA-LDW data
Dr. Leonard Tetzlaff

Measuring print exposure using a bifactor unipolar IRT model
Prof. Qi (Helen) Huang

Room 3

Session: Structural Equation Modeling II
Chair: Carl Falk

Confidence intervals based on scaled difference tests in SEM
Prof. Carl Falk

Bayesian fit measures in detecting misspecified multilevel structural equation modeling
Dr. Chunhua Cao

A priori distributions in Bayesian structural equation modeling: A scoping review protocol
Dr. Jorge Sinval

The influence of informative priors in the estimation of MIMIC model parameters with small sample sizes and outliers
Ms. Nancy Alila

Advancing contingent paradigms evaluating model fit in structural equation modeling
Prof. Thomas Niemand

Room 4

Session: Cognitive Diagnostic Models III
Chair: Xue Wang

An approach that can validate both Q-Matrices and attribute hierarchies in cognitive diagnosis models
Dr. Lingling Wang

The influence of Q matrix mis-specified on the classification of nonparametric cognitive diagnosis based on hamming distance
Dr. Sun Rui

Bayesian estimation of the Q-matrix and attribute hierarchy in DINA model
Dr. Xue Wang

A new reliability framework for cognitive diagnosis models
Prof. Youn Seon Lim

Room 5

Session: Longitudinal Data Analysis II
Chair: Evelien Schat

Perfect timing: An algorithm for leveraging optimal temporal design to enhance statistical power
Ms. Anne-Charlotte Belloeil

Person-specific updating of EWMA control limits in sparse in-control data scenarios
Dr. Evelien Schat

Lowering participant burden in long-term ESM studies through variable sample size EWMA
Ms. Fien De Pauw

Nonparametric estimation of latent growth parameters and heterogeneity
Mr. Graham Buhrman

Estimating non-normal random effects in nonlinear random effects models
Ms. Yue Zhao

Room 6

Session: Advances in the Evaluation of Statistical Model Complexity
Chair: Wes Bonifay

Fitting propensity analysis in R
Dr. Sonja Winter

The fitting propensity of 1-parameter item response theory models
Dr. Hyejin Shim

The fitting propensity of multilevel models
Ms. Yun-Kyung Kim

The fitting propensity of factor analysis models
Dr. Wes Bonifay

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

Meridian Ballroom Foyer

Refreshment Break

10:45 a.m. - 11:30 a.m.

Room 1

Invited Speaker: Dr. Aleksandar Tomašević
Capturing Emotional Dynamics: Integrating Transformer Models with Dynamic Exploratory Graph Analysis
Chair: Hudson Golino

Room 2

Invited Speaker: Dr. Keith Markus
Four Takes on Construct Validity: From Logical Empiricism to Varieties of Scientific Realism
Chair: Leah Feuerstahler

FRIDAY CONTINUED
11:45 a.m. - 1:00 p.m.

Room 1

Session: Factor Analysis
Chair: Inhan Kang

Factor score indeterminacy of sum score and common factor score
Mr. Hoang Nguyen

Integration of latent space and confirmatory factor analysis to explain unexplained person-item interactions
Dr. Inhan Kang

A GLLAMM approach for measuring child-teacher interaction quality
Dr. JoonHo Lee

A new representation of factor score and its theoretical properties
Dr. Naoto Yamashita

Development and validation of a renyuan measurement scale: Exploring social self-perception in chinese cultural contexts
Ms. Ching Yi Chiang

Room 2

Session: Multivariate Analysis
Chair: Jay Verkuilen

Generalized structured component analysis accommodating convex components: A knowledge-based multivariate method with interpretable composite indexes
Dr. Gyeongcheol Cho

A multivariate generalization of the glass delta effect size
Prof. Jay Verkuilen

Comparison of missing data techniques in generalized structured component analysis
Ms. Luqi He

Evaluating assumption violations in latent APIM: Implications for effect estimation
Ms. Shiyao Wang

Evaluating statistical power in generalized structured component analysis
Ms. Zhiyuan Shen

Room 3

Session: Causal Inference II
Chair: Jee-seon Kim

Examining heterogeneity in causal mediation effects
Prof. Hanna Kim

A taxonomy of heterogeneity in causal effects
Prof. Jee-Seon Kim

Item-level heterogeneous treatment effects in instrumental variables regression: Fixed- and random-item approaches
Dr. Sanford Student

Estimation of individual treatment effect with transfer learning
Ms. Şeyda Aydin

Room 4

Session: Theory Construction Methodology
Chair: Jason Nak

Characterisations of phenomena
Mr. Jason Nak

The boundaries between assumptions and phenomena in formal modeling: A case study of a computational model of addiction
Mr. Jesse Boot

How cause-effect reasoning impedes theory development: Why we should focus on mechanisms and functions instead
Dr. Noah van Dongen

AI-assisted theory construction with theoraizer: Do LLMs and humans agree on causal relationships?
Ms. Meike Waaijers

Room 5

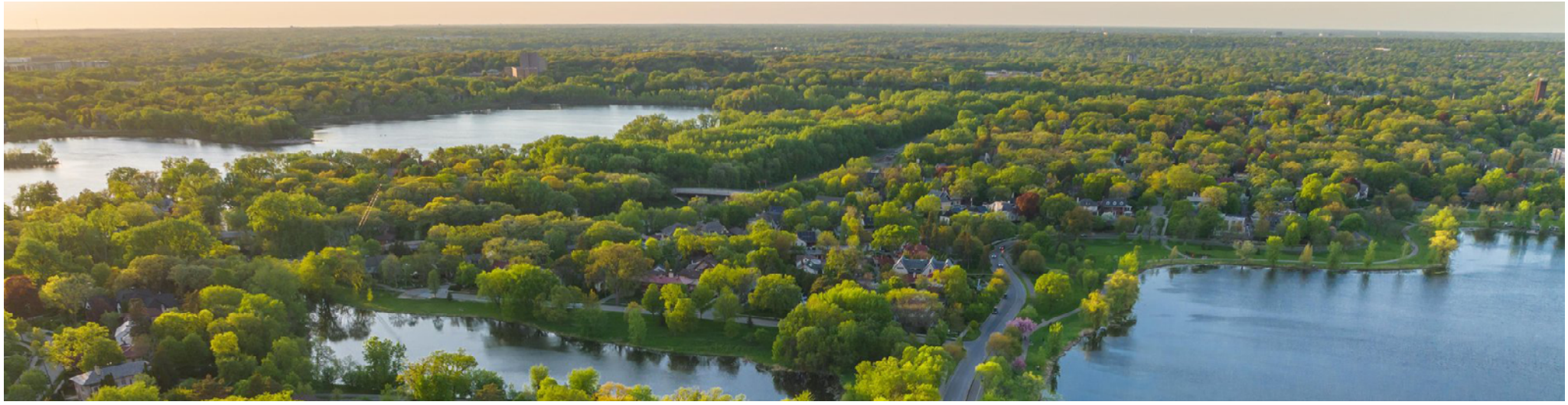
Datathon
Chair: Terrence Jorgenson

In this session, the three finalist teams of the IMPS 2025 Student Datathon will present their work. The Datathon is a collaborative competition designed to engage participants in the analysis of an innovative dataset using state-of-the-art psychometric methods.

Room 6

Symposium: Remembering John Nesselroade
Chair: Hudson Golino

This session celebrates the life and career of John Nesselroade through a series of brief, personal reflections by former students, colleagues, and collaborators.



FRIDAY CONTINUED 1:00 p.m. - 2:30 p.m.	**Lunch (On Your Own)**
2:30 p.m. - 3:30 p.m.	**Room 1** **Presidential Address: Prof. Denny Borsboom** *Chair: Steve Culpepper*
3:30 p.m. - 4:00 p.m.	**Room 1** **Members Meeting**
4:00 p.m. - 4:45 p.m.	**Room 1** **Awards and Closing Ceremony**
6:00 p.m. - 10:00 p.m.	**Nicollet Island Pavilion | Address: 40 Power Street, Minneapolis, MN 55401** **Closing Banquet Reception**

*- Thank you to **Meet Minneapolis** for the images used in this document. -*