### TUESDAY • JULY 20

#### STAGE 1

**Welcome and Opening Remarks**  
Chair: Daniel Bolt

**Keynote Speaker: Jennifer Hill**  
*Deep Down, Everyone Wants to be Causal*  
Chair: Francis Tuerlinckx

#### STAGE 1

- **1.1: Configural Complexity in Latent Variable Modeling (Symposium)**  
  Chair: Wes Bonifay
  - Wes Bonifay  
    - **CONFIGURAL COMPLEXITY AND THE PRINCIPLE OF MINIMUM DESCRIPTION LENGTH**
  - Li Cai  
    - **THE COMPLEXITY OF MODELS FOR LONGITUDINAL ITEM RESPONSE DATA**
  - Carl Falk  
    - **OCKHAMSEM: A TOOL FOR FIT PROPENSITY IN COVARIANCE STRUCTURE MODELS**
  - Yon Soo Suh  
    - **LOWER-ORDER MARGINS FOR INVESTIGATING THE COMPLEXITY OF ITEM RESPONSE MODELS**

- **1.2: Scoring and Equating**  
  Chair: Jorge Gonzalez
  - Dongmei Li  
    - **EVALUATING POPULATION INVARIANCE OF TEST EQUATING UNDER COVID-19**
  - Rudy Ligtvoet  
    - **TOTALLY POSITIVE SUMS AND FACTOR SCORES**
  - Marie Wiberg  
    - **RELATIONSHIP BETWEEN STUDENTS’ TEST RESULTS AND THEIR PERFORMANCE IN HIGHER EDUCATION USING DIFFERENT TEST SCORES**
  - Haruki Oka  
    - **Q-MATRIX VALIDATION USING A REVISED STEPWISE WALD TEST APPROACH**

- **1.3: Cognitive Diagnosis Models: the Q Matrix**  
  Chair: Peter Halpin
  - Motonori Oka  
    - **NEW ITERATIVE ALGORITHM FOR THE DINA Q-MATRIX ESTIMATION**
  - Charles Hunter  
    - **METHODS TO DEVELOP AND VALIDATE Q-MATRICES FOR COGNITIVE DIAGNOSTIC MODELING**
  - Yinghan Chen  
    - **A CONDITIONAL AUGMENTED DATA EM ALGORITHM FOR FITTING LOGISTIC ITEM RESPONSE MODELS**
  - Yuan Ge  
    - **INFERENCE OF THE NUMBER OF ATTRIBUTES IN COGNITIVE DIAGNOSIS MODELS**

- **1.4: Differential Item Functioning I**  
  Chair: Jing Lu
  - William Belzak  
    - **REGULARIZED DIF: A PENALIZED EM ALGORITHM WITH CONCAVE AND NONCONCAVE PENALTY FUNCTIONS**
  - Can Gürer  
    - **RATER BIAS AND ADDITIONAL DIF-APPLICATIONS IN AND BEYOND PSYCHOMETRICS**
  - Adela Hladká  
    - **ESTIMATION IN GENERALIZED LOGISTIC REGRESSION MODELS FOR DIF DETECTION**
  - Youngjin Han  
    - **DIFFERENTIAL ITEM FUNCTIONING IN RESTRICTED RECALIBRATION OF ITEM RESPONSE MODELS**
  - Xiangyi Liao  
    - **GUESSES AND SLIPS AS PROFICIENCY-RELATED PHENOMENA AND IMPACTS ON PARAMETER INVARIANCE**

#### STAGE 2

- **2.1: Bayesian Inference**  
  Chair: Zachary Roman
  - František Bartoš  
    - **EXTENDING ROBMA WITH PET-PEESE: MITIGATING PUBLICATION BIAS WITH BAYESIAN MODEL AVERAGING**
  - Sydne McCluskey  
    - **LEARNING THE ROPES: ASSESSING MEASUREMENT AGREEMENT WITH BAYESIAN EQUIVALENCE TESTING**
  - Julius Pfadt  
    - **THE RELIABILITY OF MULTIDIMENSIONAL SCALES: A COMPARISON OF CONFIDENCE INTERVALS AND A BAYESIAN ALTERNATIVE**
  - David Kaplan  
    - **DYNAMICALY BORROWING HISTORICAL INFORMATION FOR THE ANALYSIS OF LARGE-SCALE ASSESSMENTS**
  - Xin Tong  
    - **THE IMPACT OF LIKELIHOODS AND OUTLIERS ON BAYESIAN MODEL SELECTION**

- **2.2: Outlier Detection and Analysis**  
  Chair: Selena Wang
  - Yevgeniy Ptukhin  
    - **DERIVATION OF THE PERCENTILE BASED PARAMETERS FOR TUKEY HH, HR AND HQ DISTRIBUTIONS**
  - Yishan Ding  
    - **ADJUSTING GROUP-FIT STATISTICS FOR ESTIMATION UNCERTAINTY VIA MULTIPLE IMPUTATION**
  - Yifan Li  
    - **A FLEXIBLE POWER LINK OF ITEM RESPONSE THEORY MODEL FOR UNBALANCED DATA**
  - Peter Halpin  
    - **DIF VIA ROBUST SCALING – A FRESH LOOK AT LORD’S TEST**
  - Amanda Luby  
    - **MODELING COVARYING RESPONSES IN COMPLEX DECISION-MAKING TASKS**

- **2.3: Item Response Theory**  
  Chair: Jorge Bazán
  - Zhihui Fu  
    - **A CONDITIONAL AUGMENTED DATA EM ALGORITHM FOR FITTING LOGISTIC ITEM RESPONSE MODELS**
  - Yishan Ding  
    - **A CONDITIONAL AUGMENTED DATA EM ALGORITHM FOR FITTING LOGISTIC ITEM RESPONSE MODELS**
  - Maxim Skryabin  
    - **RECURSIVE BAYESIAN ESTIMATION FOR DYNAMIC IRT MODELS WITH FEEDBACK**
  - Amanda Luby  
    - **MODELING COVARYING RESPONSES IN COMPLEX DECISION-MAKING TASKS**
  - Diego Carrasco  
    - **CONTINUATION RATIO MODEL FOR POLYTOMOUS ITEMS UNDER SURVEY COMPLEX DESIGN**

- **2.4: Structural Equation Modeling**  
  Chair: Kenneth Wilcox
  - Yang Liu  
    - **GENERALIZED FIDUCIAL INFERENCE FOR COVARIANCE STRUCTURE ANALYSIS**
  - Soyounig Kim  
    - **BAYESIAN PLAUSIBLE VALUES VERSUS MLE IN TESTING MULTILEVEL MODERATED MEDIATION**
  - Lijin Zhang  
    - **BAYESIAN REGULARIZATION IN MULTIPLE INDICATORS MULTIPLE CAUSES MODELS**
  - Sonja Winter  
    - **DETECTING MISSPECIFICATION IN LATENT GROWTH MODELS WITH BAYESIAN FIT INDICES**
  - Graham Rifenbark  
    - **ON THE MERITS OF AVAILABLE STRUCTURAL FIT INDICES AND THE IMPACT OF CONSTRUCT RELIABILITY**
<table>
<thead>
<tr>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>STAGE 3</th>
<th>STAGE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1: Machine Learning</strong>&lt;br&gt;Chair: Dmitry Abbakumov&lt;br&gt;Chengcheng Li&lt;br&gt;LEARNING LARGE Q-MATRIX BY RESTRICTED BOLTZMANN MACHINES</td>
<td><strong>3.2: Factor Analysis/Dimensionality Reduction</strong>&lt;br&gt;Chair: Terrence Jorgensen&lt;br&gt;Mohammed Abulela&lt;br&gt;HOW DOES SUBSAMPLE VARIABILITY IMPACT EXPLORATORY ITEM FACTOR ANALYSIS RESULTS?&lt;br&gt;Edward Ip&lt;br&gt;BAYESIAN COVARIANCE ADAPTIVE LASSO FACTOR ANALYSIS MODELS WITH ORDINAL DATA</td>
<td><strong>3.3: IRT with Noncognitive Measures</strong>&lt;br&gt;Chair: Mirka Henninger&lt;br&gt;Brooke Magnus&lt;br&gt;SYMPTOM PRESENCE AND SYMPTOM SEVERITY AS UNIQUE INDICATORS OF PSYCHOPATHOLOGY</td>
<td><strong>3.4: Cognitive Diagnostic Models</strong>&lt;br&gt;Chair: Mathew Madison&lt;br&gt;Jimmy de la Torre&lt;br&gt;MC-DINA MODEL EXTENSION TO OPTIMIZE THE DIAGNOSTIC VALUE OF MULTIPLE-CHOICE DATA&lt;br&gt;James Balamuta&lt;br&gt;HIGHER-ORDER EXPLORATORY GENERAL DIAGNOSTIC MODEL FOR BINARY MULTIVARIATE DATA&lt;br&gt;Eduardo Oliveira&lt;br&gt;A BOUNDED COGNITIVE DIAGNOSIS MODEL TO CLASSIFICATION PROBLEM&lt;br&gt;Yu Wang&lt;br&gt;NONPARAMETRIC CLASSIFICATION METHOD FOR MULTIPLE-CHOICE ITEMS IN COGNITIVELY DIAGNOSTIC MODELS&lt;br&gt;Kentaro Fukushima&lt;br&gt;MODELING PARTIAL KNOWLEDGE IN MULTIPLE-CHOICE COGNITIVE DIAGNOSTIC MODELS</td>
</tr>
<tr>
<td>Invited Talk: Elena Erosheva&lt;br&gt;<em>Statistical Approaches to Understanding Characteristics and Limits of Peer Review Assessments</em>&lt;br&gt;Chair: Sophia Rabe-Hesketh</td>
<td>Invited Talk: Leslie Rutkowski&lt;br&gt;<em>Beyond Carrying Capacity: Have International Assessments Been Stretched Too Far?</em>&lt;br&gt;Chair: David Kaplan</td>
<td><strong>3.5: Multilevel Analysis</strong>&lt;br&gt;Chair: Nidhi Kohli&lt;br&gt;Niels Bitbol&lt;br&gt;LONGITUDINAL MEASUREMENT INVALENCE: EVALUATION CONSIDERATIONS&lt;br&gt;Emma Link&lt;br&gt;COLLABORATIVE DISSEMINATION OF DIAGNOSTIC ASSESSMENT RESULTS&lt;br&gt;Patrick Manapat&lt;br&gt;NONPARAMETRIC CLASSIFICATION METHOD FOR MULTIPLE-CHOICE ITEMS IN COGNITIVELY DIAGNOSTIC MODELS&lt;br&gt;Gertrudes Velasquez&lt;br&gt;EFFECTS IN CROSS-LAGGED PANEL MEDIATION MODELS UNDER SUB-OPTIMAL DATA CONDITIONS</td>
<td></td>
</tr>
</tbody>
</table>

**TUESDAY • JULY 20**

11:20 a.m.-11:55 a.m.<br>US Eastern Time

12:00 p.m.-12:55 p.m.<br>US Eastern Time

**WEDNESDAY • JULY 21**

9:00 a.m.-9:55 a.m.<br>US Eastern Time

10:00 a.m.-10:55 a.m.<br>US Eastern Time
10:00 a.m.-10:35 a.m.
US Eastern Time

**STAGE 1**

4.1: Response Times and Cognitive Diagnosis
- Tong Wu
  - Modeling Student’s Response Time in an Attribute Balanced Cognitive Diagnostic Adaptive Testing

4.2: Measurement Invariance
- Rudolf Debela
  - Variations of Score-Based Measurement Invariance Tests for Multiple-Group IRT Models

4.3: Multilevel Analysis
- Shufang Zheng
  - The Influence of Inaccurate Informative Priors on Bayesian Multilevel Modeling

4.4: Mediation Analysis
- Xiao Liu
  - Bayesian Hypothesis Testing of Mediation

10:40 a.m.-11:15 a.m.
US Eastern Time

**STAGE 1**

5.1: Topics on Cross-Cultural Measurement (Symposium)
- Chair: R. Trent Haines
  - Christopher Amissah
    - A Rasch Analysis of a Twi Translation and Adaptation of the Revised UCLA Loneliness Scale
  - Janine Jackson
    - Confidence, Control, and Collaboration: A Cross-Cultural Investigation of Job Satisfaction Among Teachers in Select European Union Countries
  - Taj Rollins
    - Prevalence of Commonly Reported Response Styles in a Representative Sample of American Adolescents and Young Adults
  - R. Trent Haines
    - Cross-Cultural Translation and Adaptation: Examining Adherence to International Test Commission Guidelines
  - Hyeyeon Seok
    - Guideline to Effective Use in Machine Learning Approaches to Psychology

5.2: Big Data/Process Data
- Chair: Yang Liu
  - Qiwei He
    - Examining Respondents’ Item Transition and Navigation Patterns with Sequence Clustering
  - Hua-Hua Chang
    - The Future of Psychometric Research: From Standardized Testing to Learning Analytics

5.3: Mixture Models
- Chair: Thorsten Meiser
  - Rehab Al Hakmani
    - Identifying the Latent Structure of TIMSS-2019 Using Mixture IRT Models
  - Jung-Jung Lee
    - A Piecewise Latent Variable Regression Mixture Model
  - Hulya Duygu Yigit
    - Variable Selection for Exploratory Restricted Latent Class Models with Covariates
  - Jingyu Sun
    - A Novel Finite Mixture Model to Cluster Dynamic Latent Ability in Item Response Theory Models
  - Adam Sales
    - A Conditional Approach to Structural Zeroes in Latent Class Analysis

5.4: Missing Data
- Chair: Gabriel Wallin
  - Manshu Yang
    - Handling Missing Data in Partially Nested Randomized Control Trials
  - Ya-Hui Su
    - The Effects of Resorting Missing Data for Uniform DIF Analysis
  - Jinxin Guo
    - Parameter Estimation of IRT Models with Omissions
  - Jing Lu
    - A Sequential Process Cognitive Diagnostic Model for Not-Reached and Omitted Items
  - Egamar Alacam
    - A Model-Based Imputation Approach for Scale Scores
### 11:20 a.m.-11:55 a.m.

#### STAGE 1

**6.1: Networks**  
Chair: Brooke Houck

*Selena Wang*
- Explore the structure in big data using a joint modeling framework for social networks and high-dimensional attributes

*Zachary Roman*
- An argument for explicitly modeling social dependence in the behavioral sciences: Analysis of student popularity as a function of social networks using a social network auto-regressive (SNAR) model

*Haiyan Liu*
- Social network analysis of the sending effect of personality on directional friendship

*Hsiu-Ting Yu*
- Correspondences between latent variable models and psychometric network models

*Dmitry Abbakumov*
- The psychological network with growth effects for modeling and explaining online learners’ difficulties

*Terrence Jorgensen*
- Building dyadic network models for dyad-constant dependent variables

#### STAGE 2

**6.2: Rasch Modeling**  
Chair: Qiwei He

*Charalampos Kollias*
- Constructing a Rasch scale

*Andreas Kurz*
- Conditional inference in small sample scenarios

*Naiara Caroline Aparecido das Santos*
- A new Rasch count model

*Felix Zimmer*
- Power analysis for testing linear hypotheses using marginal maximum likelihood

#### STAGE 3

**6.3: DIF and Anchor Selection Issues**  
Chair: Allison Boykin

*Ben Stenhaug*
- Treading carefully: Agnostic identification as the tenuous first step of detecting differential item functioning

*Qiao Lin*
- A conditional logistic regression approach to studying differential item functioning

*Mirka Henninger*
- Mantel-Haenszel effect size as a stopping criterion in Rasch trees

*Kevin Carl Santos*
- DIF-CD-CAT: Improving attribute classification in the presence of differential item functioning

#### STAGE 4

**6.4: Longitudinal Data Analysis**  
Chair: Diego Carrasco

*Kazuhiro Yamaguchi*
- A variational Bayes inference algorithm for longitudinal diagnostic classification models

*Rohit Batra*
- Modeling retest effects in developmental processes using latent change score models

*Pablo Fernández-Cánce*
- Stochastic latent change score model: Monte-Carlo study and theoretical considerations

*Mar J.F. Ollero*
- Kalman scores for recovering individual trajectories in accelerated longitudinal designs

*Corissa Rohloff*
- Functional form complexity and model fit for longitudinal data

*Simran Johal*
- Detecting cohort effects in latent change score and multilevel models

### 12:00 p.m.-12:25 p.m.

#### STAGE 1

**Spotlight Talk: Oludare Ariyo**  
Prior distributions for structured covariance matrices  
Chair: Edward Ip

#### STAGE 2

**Spotlight Talk: Heather Gunn**  
Fitting a LASSO to multiply imputed data: A missing discussion  
Chair: Chun Wang

#### STAGE 3

**Spotlight Talk: Hong Jiao**  
Analyzing responses, response time, and answer changes for cognitive diagnosis with machine learning algorithms  
Chair: Silvia Cagnone

### 12:30 p.m.-1:15 p.m.

#### STAGE 1

**2021 Early Career Award Keynote Speaker: Minjeong Jeon**  
A network view on item response data: A latent space modeling approach to item response network  
Chair: Matthias von Davier
<table>
<thead>
<tr>
<th>Time</th>
<th>Stage 1</th>
</tr>
</thead>
</table>
| 9:00 a.m.-9:55 a.m. | Invited Talk: Maarten Marsman  
*What Network Psychometrics Can Learn from Classic Psychometric and Network Modelling*  
Chair: Matthew Johnson |
| 9:00 a.m.-9:25 a.m. | Spotilight Talk: Manqian Liao  
*Quality Assurance in Digital-First Assessment*  
Chair: Qiwei He |
| 9:30 a.m.-9:55 a.m. | Spotilight Talk: Dmitry Belov  
*Predicting Item Characteristic Curve (ICC) Using a Softmax Classifier*  
Chair: Hua-Hua Chang |

<table>
<thead>
<tr>
<th>Time</th>
<th>Stage 2</th>
</tr>
</thead>
</table>
| 9:00 a.m.-9:25 a.m. | Eduardo Alarcón-Bustamante  
*MARGINAL EFFECT IN SELECTION TESTS: A PARTIAL IDENTIFICATION APPROACH* |
| 9:30 a.m.-9:55 a.m. | Inhan Kang  
*MODELING THE PSYCHOLOGICAL PROCESSES UNDERLYING ORDINAL RESPONSES AND RESPONSE TIMES* |
| 9:00 a.m.-9:25 a.m. | Ernesto San Martín  
*GENDER BIAS IN HIGHER EDUCATION: HOW FEASIBLE IS IT TO DETECT IT IN THE PRESENCE OF NON-RESPONSES?* |
| 9:30 a.m.-9:55 a.m. | Tobias Deribo  
*CAN RAPID GUESSING BIAS THE IDENTIFIED SPEED-ABILITY-RELATION?* |
| 9:00 a.m.-9:25 a.m. | Xavier de Luna  
*INFERENCING TAKING INTO ACCOUNT UNCERTAINTY DUE TO (UN)TESTABLE MODEL ASSUMPTIONS* |
| 9:30 a.m.-9:55 a.m. | Xiaojing Wang  
*BAYESIAN JOINT ITEM RESPONSE THEORY MODELS FOR MULTIDIMENSIONAL RESPONSE DATA* |
| 9:00 a.m.-9:25 a.m. | Jorge González  
*ASYMMETRY OF ICCS IN IRT MODELS: CAN WE ACCOUNT FOR IT USING THE LPE MODEL?* |
| 9:30 a.m.-9:55 a.m. | Weicong Lyu  
*HOW CONTENT TRAITS AND RESPONSE STYLES SIMULTANEOUSLY AFFECT RESPONSE TIMES* |

<table>
<thead>
<tr>
<th>Time</th>
<th>Stage 3</th>
</tr>
</thead>
</table>
| 9:00 a.m.-9:55 a.m. | Kongju Suh  
*A LONGITUDINAL EXTENSION OF POLY TOMOUS ITEM RESPONSE THEORY FOR GROWTH MODELING* |
| 9:30 a.m.-9:55 a.m. | Hanna Kim  
*A LATENT VARIABLE FRAMEWORK FOR DYADIC DATA WITH MULTIPLE INDICATORS* |
| 9:00 a.m.-9:55 a.m. | Stefany Mena  
*A BOOTSTRAP METHOD FOR GROWTH CURVE MODELS WITH NON-NORMAL DATA* |
| 9:30 a.m.-9:55 a.m. | Ajay Tripathi  
*UNDYN: UNHINGED DYNAMIC ABILITY ESTIMATION* |
| 9:00 a.m.-9:55 a.m. | Jinwen Luo  
*CHINESE UNIVERSITY STUDENTS’ GROWTH IN CRITICAL THINKING: ACCOUNTING FOR SCHOOL TRANSITION AND SELECTION EFFECTS* |
| 9:30 a.m.-9:55 a.m. | Yuhao Li  
*NONPARAMETRIC MODELING FOR DYNAMIC CHANGES OF ABILITY IN ITEM RESPONSE THEORY MODELS* |

<table>
<thead>
<tr>
<th>Time</th>
<th>Stage 4</th>
</tr>
</thead>
</table>
| 9:00 a.m.-9:55 a.m. | Zhenqiu Lu  
*MULTILEVEL TIME SERIES MODEL* |
| 9:30 a.m.-9:55 a.m. | Paul Scott  
*BAYES AND ML FOR DETECTING CAUSAL DOMINANCE WITH SMALL SAMPLES* |
| 9:00 a.m.-9:55 a.m. | Ai Ye  
*A COMPARISON OF PSYCHOMETRIC APPROACHES FOR MULTIPLE SUBJECT DYNAMIC MODELS* |
## STAGE 1
### 8.1: Foundational Issues
Chair: Maxim Skryabin
- Hojatollah Farahani: Introducing the Segmented Construct Validity of a Psychological Tool Using Fuzzy Matrix Theory
- Allison Boykin: Simulation Studies in Psychometrics: State of the Practice
- Patrick Manapat: A Revised and Expanded Taxonomy for Understanding Heterogeneity in Research and Reporting Practices
- Jinghao Ma: Proposal for Calculating Encounter Rate in Qualitative Research
- Po-Hsien Huang: Psychometric Modeling via Deep Learning Libraries

## STAGE 2
### 9.1: Writing Assessment
Chair: Richard Feinberg
- Ye Yuan: Using Unfolding Models to Identify Feedback Strategies for Student Writing
- Constanza Mardones-Segovia: Comparison of Estimation Algorithms for Latent Dirichlet Allocation
- Magdalen Beiting-Parrish: Using Text Clustering to Examine the Language of Mathematics Items
- Ru Lu: Subgroup Essay Composition Process Differences in Scenario-Based Assessment

### 9.2: Reliability
Chair: Marie Wiberg
- Patrícia Martinková: Addressing the Blue Book Problem: Applications of a Position-Sensitive IRT Mixture Model to Enem 2014
- Hyung Jin Kim: Adjusting Parameter Estimates for Not-Reached Items
- Rabi Karatoprak Ersen: Impact of Pretest Item Quality on Parameter Recovery in Mst
- Yu-Wei Chang: An Item Response Theory Tree Model Incorporating Guessing Behavior for the Presence of Non-Response Data
- Marco Siyuan Chen: Nominal Item Calibration with a Regularized Multiple-Choice Model
- Xiuxiu Tang: Comparison of On-the-Fly MST with Preassembled MST on Pisa Data

### 9.3: Causal Inference
Chair: Davood Tofighi
- Youmi Suk: Regression Discontinuity Designs with an Ordinal Running Variable: Evaluating the Effects of Extended Time Accommodations for English Language Learners
- Hok Chio Lai: Obtaining Reliability for Daily Diary Data Using Multilevel Factor Analysis
- Zhenui Lu: Reliabilities Under Multi-Level Structure with Missing Values
- Anne Thissen-Roe: Some Adventures in Reliability Estimation
- Qi (Helen) Huang: Comparison of Dcm and Irt Reliabilities Using New Indices

## STAGE 3
### 8.2: Issues in IRT
Chair: Stella Kim
- Klint Kanopka: Addressing the Blue Book Problem: Applications of a Position-Sensitive IRT Mixture Model to Enem 2014
- Hyung Jin Kim: Adjusting Parameter Estimates for Not-Reached Items
- Rabi Karatoprak Ersen: Impact of Pretest Item Quality on Parameter Recovery in Mst
- Yu-Wei Chang: An Item Response Theory Tree Model Incorporating Guessing Behavior for the Presence of Non-Response Data
- Marco Siyuan Chen: Nominal Item Calibration with a Regularized Multiple-Choice Model
- Xiuxiu Tang: Comparison of On-the-Fly MST with Preassembled MST on Pisa Data

### 8.3: Issues in Cognitive Diagnostic Modeling
Chair: Ya-Hui Su
- Yuqi Gu: Identifiability of Hierarchical Cognitive Diagnostic Models
- Youn Seon Lim: The Mantel-Haenszel Statistic for Detecting Testlet Effects in Cognitively Diagnostic Tests
- Chenchen Ma: Bridging Parametric and Nonparametric Methods in Cognitive Diagnosis
- Sook Hyun Park: Deriving Posterior Probabilities from the Nonparametric Classification Method

### 8.4: Test Security and Aberrant Responding
Chair: Anne Thissen-Roe
- Yang Du: Prenovel Detection: A Bayesian Predictive Checking Method
- Qingzhou Shi: An SEM-Based Joint-Modeling Approach on Responses and Response Time in Multidimensional Test to Assess Cheating Behaviors
- Richard Feinberg: Exploring the Utility of Nonfunctioning Distractors
- Susanne Frick: A Mixture Model for Faking in Multidimensional Forced-Choice Questionnaires

## STAGE 4
### 10:40 a.m.–11:15 a.m.
US Eastern Time
- 9:1: Writing Assessment
- 9:2: Reliability
- 9:3: Causal Inference
- 9:4: Test Security and Aberrant Responding

### 11:20 a.m.–11:55 a.m.
US Eastern Time
- 8.2: Issues in IRT
- 8.3: Issues in Cognitive Diagnostic Modeling
- 8.4: Test Security and Aberrant Responding

### 12:00 p.m.–12:55 p.m.
US Eastern Time
- 10:40 a.m.–11:15 a.m.
US Eastern Time
- 11:20 a.m.–11:55 a.m.
US Eastern Time
- 12:00 p.m.–12:55 p.m.
US Eastern Time
<table>
<thead>
<tr>
<th>Time</th>
<th>Stage 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 a.m.-9:45 a.m.</td>
<td>Dissertation Award Speaker: Jonas Haslbeck</td>
</tr>
<tr>
<td></td>
<td>Modeling Psychopathology: From Data Models to Formal Theories</td>
</tr>
<tr>
<td></td>
<td>Chair: Terry Ackerman</td>
</tr>
<tr>
<td>9:50 a.m.-10:35 a.m.</td>
<td>2020 Early Career Award Keynote Speaker: Steffi Pohl</td>
</tr>
<tr>
<td></td>
<td>Reframing Rankings in Educational Assessments: Disentangling Different Aspects of Test Performance Using Process Data</td>
</tr>
<tr>
<td></td>
<td>Chair: Jeffrey Douglas</td>
</tr>
<tr>
<td>10:40 a.m.-11:15 a.m.</td>
<td>10.1: Dynamic Modeling with Categorical Data (Symposium)</td>
</tr>
<tr>
<td></td>
<td>Chair: Meng Chen</td>
</tr>
<tr>
<td></td>
<td>1. Meng Chen</td>
</tr>
<tr>
<td></td>
<td>- Describing and Controlling Multivariate Nonlinear Dynamics: A Boolean Network Approach</td>
</tr>
<tr>
<td></td>
<td>2. Xiao Yang</td>
</tr>
<tr>
<td></td>
<td>- Applying the Particle Filter to Model Dynamics with Ordinal Data</td>
</tr>
<tr>
<td></td>
<td>3. Sebastian Castro-Alvarez</td>
</tr>
<tr>
<td></td>
<td>- Dynamic Item Response Theory: An Approach to Analyze Polytomous Time-Series Data</td>
</tr>
<tr>
<td></td>
<td>4. Sijing Shao</td>
</tr>
<tr>
<td></td>
<td>- Dynamic Poisson Factor Analysis: A Hierarchical Bayesian Approach with Intensive Text Data</td>
</tr>
<tr>
<td></td>
<td>5. Silvia Cagnone</td>
</tr>
<tr>
<td></td>
<td>- Comparison Between Different Estimation Methods in Dynamic Latent Variable Models for Categorical Data</td>
</tr>
<tr>
<td></td>
<td>6. Yannick Rothacher</td>
</tr>
<tr>
<td></td>
<td>- Identifying Informative Predictor Variables with Random Forests</td>
</tr>
<tr>
<td></td>
<td>7. Di Jody Zhou</td>
</tr>
<tr>
<td></td>
<td>- Variable Selection Comparison of Lasso and Stepwise Regression</td>
</tr>
<tr>
<td></td>
<td>8. Xiaobei Li</td>
</tr>
<tr>
<td></td>
<td>- Regularized SEM with Missing Data: A Comparison of Different Methods</td>
</tr>
<tr>
<td></td>
<td>9. Sayed H. Kadhem</td>
</tr>
<tr>
<td></td>
<td>- Bi-Factor and Second-Order Copula Models for Item Response Data</td>
</tr>
<tr>
<td></td>
<td>10. Xin Xu</td>
</tr>
<tr>
<td></td>
<td>- Modelling Testlet Effect Incorporating Correlations Under Diagnostic Classification Models</td>
</tr>
<tr>
<td></td>
<td>11. Anastasios Psychoggiopoulos</td>
</tr>
<tr>
<td></td>
<td>- Why Bifactor Models Outperform Higher-Order Factor Models for General Intelligence: A Network Perspective</td>
</tr>
<tr>
<td></td>
<td>12. Wenya Chen</td>
</tr>
<tr>
<td></td>
<td>- Naccurate Results from the Bifactor IRT Model</td>
</tr>
<tr>
<td></td>
<td>13. Denis Federiakin</td>
</tr>
<tr>
<td></td>
<td>- On the Critique of the Oblique Bifactor Models: Conditions for Identification and Problems in Interpretation</td>
</tr>
<tr>
<td>11:20 a.m.-12:00 p.m.</td>
<td>Members Meeting and Awards Ceremony</td>
</tr>
<tr>
<td></td>
<td>Chair: Carolyn Anderson</td>
</tr>
<tr>
<td>12:05 p.m.-1:00 p.m.</td>
<td>Presidential Address Speaker: Daniel Bolt</td>
</tr>
<tr>
<td></td>
<td>Item Complexity: A Neglected Psychometric Feature of Test Items?</td>
</tr>
<tr>
<td></td>
<td>Chair: Irini Moustaki</td>
</tr>
<tr>
<td>1:00 p.m.-1:15 p.m.</td>
<td>IMPS Virtual Group Photo</td>
</tr>
<tr>
<td></td>
<td>Be sure to join us at the end of the Virtual Meeting to take a virtual group photo. Chair: Daniel Bolt</td>
</tr>
</tbody>
</table>