



# 2016 Annual Meeting, April 7-11

Washington, DC

Renaissance Washington, DC Downtown Hotel

## Schedule by Session Title and First Author

Don't miss Richard Patz's Presidential Address:  
*"Education and the Measurement of Behavioral Change"*  
on Sunday, April 10 at 9:00 AM





# Invited Sessions

## Saturday, April 9, 2016: Invited Sessions

### 8:15 AM -10:15 AM

NCME Book Series Symposium: The Challenges to Measurement in an Era of Accountability

**Session Chair:** Henry Braun

**Session Discussants:** Suzanne Lane and Scott Marion

*Michael Kolen, Kadriye Ercikan, Pamela Kaliski, Meg Malone, Paul Sandrock, Scott Shuler, Tim Brophy, Robert Sabol, Daisy Rutstein, Britte Cheng, Nathaniel Brown*

### 2:15 PM -3:45 PM

Assessing the assessments: Measuring the quality of new college- and career-ready assessments

*Morgan Polikoff, Tony Alpert, Bonnie Hain, Brian Gill, Carrie Conaway, Donna Matovinovic*

## Sunday, April 10, 2016: Invited Sessions

### 10:35 AM -12:05 PM

Career Award: Do Educational Assessments Yield Achievement Measurements

*Mark Reckase*

Should the NAEP Mathematics Framework be revised to align with the Common Core State Standards?

*Bill Bushaw, Michael P Cohen, Chester E Finn, Terry Mazany*

## Monday, April 11, 2016: Invited Sessions

### 8:15 AM-10:15 AM

NCME Book Series Symposium: Technology and Testing

**Session Chair:** Randy Bennett

*Fritz Drasgow, Michael Kolen, Melissa Margolis, Brian Clauser, Jerome Clauser, Stephen Sireci, Mark Gierl, Hollis Lai, Karen Fung, Bin Zheng, Mark Reckase, Elizabeth Stone, Cara Laitusis, Linda Cook, Kurt Geisinger, Walter Way, Laurie Davis, Leslie Keng, Ellen Strain-Seymour, Edward Haertel*

Recent Advances in Quantitative Social Network Analysis in Education

*Tracy Sweet, Mengxiao Zhu, Qiwen Zheng, Sam Adhikari, I-Chien Chen, Beau Dabbs*

### 10:35 AM-12:05 PM

Hold the Presses! How Measurement Professionals can Speak More Effectively with the Press and the Public

**Co-Chairs:** Kristen Huff, Laurie Wise and Lori Crouch

*Caroline Hendrie, David Hoff, Andrew Ho, Anya Kamenetz, Sarah Sparks*

### 12:25 PM-1:55 PM

The Every Students Succeeds Act (ESSA): Implications for measurement research and practice

*Martin West*

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# Coordinated Sessions

## 2:15 PM-3:45 PM

NAAD Session: Learning from History: How K-12 Assessment Will Impact Student Learning Over the Next Decade

*Mary E Yakimowski, Kenneth J Daly III, Dale Whittington, Lou Fabrizio, Carlos Martínez, Jr, James H McMillan, Eva Baker*

Implications of Computer-Based Testing for Assessing Diverse Learners: Lessons Learned from the Consortia  
**Session Discussant:** Bob Dolan

*Carsten Wilmes, Tony Alpert, Trinell Bowman, Margaret Ho, Rachel Quenemoen, Russell Swinburne Romine*

## 4:05 PM -6:05 PM

On the use and misuse of latent variable scores

*Anders Skrondal*

## Saturday, April 9, 2016: Coordinated Sessions

### 8:15 AM-10:15 AM

Collaborative Problem Solving Assessment: Challenges and Opportunities

Harnessing Technological Innovation in Assessing English Learners: Enhancing Rather Than Hindering  
*Jennifer Renn, Megan Montee, David MacGregor, Jennifer Norton*

Enacting a Learning Progression Design to Measure Growth  
*Derek Briggs, Jere Confrey, Scott Marion, Joseph Martineau*

### 10:35 AM -12:05 PM

The End of Testing as We Know it?

Fairness and Machine Learning for Educational Practice

Item Difficulty Modeling: From Theory to Practice  
*Isaac Bejar, Susan Embretson, Edith Graf*

### 12:25 PM -1:55 PM

Opting out of testing: Parent rights versus valid accountability scores  
*Michelle Croft, Tim Vansickle, Derek Brown*

Building toward a validation argument with innovative field test design and analysis  
*Catherine Welch, Tim Davey, LeBeau*

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# Coordinated Sessions

Towards establishing standards for spiraling of contextual questionnaires in large-scale assessments

*Paul Jewsbury, David Kaplan, Matthias von Davier*

Estimation precision of variance components: Revisiting generalizability theory

*Jinming Zhang, Joe Grochowalski, Chih-Kai Lin*

## **2:15 PM -3:45 PM**

Some psychometric models for learning progressions

*Mark Wilson, David Torres Iribarra, In-Hee Choi*

Multiple Perspectives on Promoting Assessment Literacy for Parents

*Cindy Walker, Sharyn Rosenberg, Maria Donata Vasquez-Colina*

## **4:05 PM- 6:00 PM**

Do Large Scale Performance Assessments Influence Classroom Instruction? Evidence from the Consortia

*Marty McCall, Ellen Forte, Marianne Perie, Kenji Hakuta, Dorry Kenyon*

Applications of Latent Regression to Modeling Student Achievement, Growth, and Educator Effectiveness

*Benjamin Shear, Katherine Castellano, J.R. Lockwood*

Jail Terms for Falsifying Test Scores: Yes, No or Uncertain?

Tablet Use in Assessment

*Nicholas Cottrell, Alexis Lopez, Laurie Davis, Guangming Ling*

## **Sunday, April 10, 2016: Coordinated Sessions**

### **10:35 AM- 12:05 PM**

Beyond process: Theory, policy, and practice in standard setting

*Lori Nebelsick-Gullet, Joseph Martineau, Juan d'Brot, Karla Egan*

Exploring Timing and Process Data in Large-Scale Assessments

*Samuel Greiff, Qiwei He, Zhuangzhuang Han, Ralph Carstens*

Psychometric Challenges with the Machine Scoring of Short-Form Constructed Responses

*Allan Cohen, Xinhui Xiong, Susan Lottridge*

### **2:45 PM -4:15 PM**

Challenges and Opportunities in the Interpretation of the Testing Standards

*Wayne Camara, Erika Hall, Chad Buckendahl, Ellen Forte*

Applications of Combinatorial Optimization in Educational Measurement

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# Coordinated Sessions

## 4:35 PM -6:05 PM

Advances in Balanced Assessment Systems: Conceptual framework, informational analysis, application to accountability

*Brian Gong, Rajendra Chattergoon, Phonraphee Thummaphan, Carla Evans*

Minimizing Uncertainty: Effectively Communicating Results from CDM-based Assessments

*Laine Bradshaw, Tasmin Dhaliwal, Kristen DiCerbo, Valerie Shute*

Overhauling the SAT: Using and Interpreting Redesigned SAT Scores

*Jack Buckley, Sherral Miller, Pamela Kaliski, Jeff Wyatt, Emily Shaw*

Quality Assurance Methods for Operational Automated Scoring of Essays and Speech

*Raghuveer Kanneganti, Guangming Ling, Claudia Leacock, Su-Youn Yoon*

## Monday, April 11, 2016: Coordinated Sessions

### 8:15 AM-10:15 AM

Exploring Various Psychometric Approaches to Report Meaningful Subscores

*Jon Cohen, Likun Hou, Megan Kuhfeld, Yi Du*

From Items to Policies: Big Data in Education

*José González-Brenes, Thomas McTavish, William Lorié, Kathy McKnight, Antonio Moretti*

Methods and Approaches for Validating Claims of College and Career Readiness

*Stephen Sireci, Wayne Camara, Catherine Welch, Thanos Patelis*

### 10:35 AM -12:05 PM

Challenges and solutions in the operational use of automated scoring systems

*Ji An, Heather Buzick, Xin Chen, Jay Breyer*

Novel Models to Address Measurement Errors in Educational Assessment and Evaluation Studies

*Li Cai, Kilchan Choi, Michael Seltzer, Kilchan Choi*

Mode Comparability Investigation of a CCSS based K-12 Assessment

*Jong Kim, Karen Barton, Dong-In Kim, Marc Julian*

### 12:25 PM -1:55 PM

Career Paths in Educational Measurement: Lessons Learned by Accomplished Professionals

Recent Investigations and Extensions of the Hierarchical Rater Model

*Brian Junker, Mark Bond, Ricardo Nieto, Peter Conforti*

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# Individual Sessions

The Validity of Scenario-Based Assessment: Empirical Results

*John Sabatini, Randy Bennett, Edys Quellmalz*

## 2:15 PM -3:45 PM

Psychometric Issues on the Operational New-Generation Consortia Assessments

*Yi Du, Shudong Wang, Yanming Jiang*

Issues and Practices in Multilevel Item Response Models

*Chen Li, Xiaying Zheng, Megan Kuhfeld, Ji Seung Yang, Xue Zhang*

Psychometric Issues in Alternate Assessments

*Chao Xie, Okan Bulut (Alicia Cascallar Award Winner 2016), Hyesuk Jang, Ming Lei*

Recommendations for Addressing the Unintended Consequences of Increasing Examination Rigor

*Phil Canto, Süleyman Olgar, Onder Koklu*

## 4:05 PM -6:05 PM

Fairness Issues and Validation of Non-Cognitive Skills

*Edynn Sato, Thanos Patelis, Maria Elena Oliveri, Kurt Geisinger*

Thinking about your Audience in Designing and Evaluating Score Reports

*Amanda Clauser, Priya Kannan, Amy Clark, Richard Tannenbaum, Jenny Rankin*

Use of automated tools in listening and reading item generation

*Kathleen Sheehan, Peter Foltz, Anastassia Loukina, Chong Min Lee, Swapna Somasundaran*

## Saturday, April 9, 2016: Individual Sessions

### 8:15 AM -10:15 AM

#### **Session Title: How can assessment inform classroom practice?**

**Discussant:** Priya Kannan

What Score Report Features Promote Accurate Remediation? Insights from Cognitive Interviews

*Francis Rick*

Evaluating the Degree of Coherence between Instructional Targets and Measurement Models

*Lauren Deters*

Modeling the Instructional Sensitivity of Polytomous Items

*Alexander Naumann*

Growth Sensitivity and Standardized Assessments: New Evidence on the Relationship

*Shalini Kapoor*

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# Individual Sessions

Using Regression-Based Growth Models to Inform Learning with Multiple Assessments

*Ping Yin*

## **Session Title: Testlets and Multidimensionality in Adaptive Testing**

**Discussant:** Chun Wang

Measuring Language Ability of Students with Compensatory MCAT: A Post-Hoc Simulation Study

*Burhanettin Özdemir*

Multidimensional CAT classification method for composite scores

*Lihua Yao*

Two Bayesian Online Calibration Methods in Multidimensional Computerized Adaptive Testing

*Ping Chen*

Item Selection in Testlet-Based CAT

*Mark Reckas*

Effects of Testlet Characteristics on Estimating Abilities in Testlet-based CAT

*Seohong Pak*

Computerized Mastery Testing (CMT) without the use of Item Response Theory

*Sunhee Kim*

## **Session Title: Methods for Examining Local Item Dependence and Multidimensionality**

**Discussant:** Ki Matlock

Examining Unidimensionality with Parallel Analysis on Residuals

*Tianshu Pan*

A Conditional IRT model for Directional Local Item Dependency in Multipart Items

*Dandan Liao*

Fit Index Criteria in Confirmatory Factor Analysis Models used by Measurement Practitioners

*Anne Corinne Huggins-Manley*

Multilevel Bi-Factor IRT Models for Wording Effects

*Xiaorui Huang*

A Generalized Multinomial Error Model for Tests That Violate Conditional Independence Assumptions

*Benjamin Andrews*

Both Local Item Dependencies and Cut-point Location Impact Examinee Classifications

*Jonathan Rubright*

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# Individual Sessions

**10:35 AM -12:05 PM**

**Session Title: Growth and Vertical Scales**

**Discussant:** Anna Topczewski

Estimating vertical scale drift due to repetitious horizontal equating

*Emily Ho*

An EIRM Approach for Studying Latent Growth in Alphabet Knowledge Among Kindergarteners

*Xiaoxin Wei*

Vertical Scaling and Item Location: Generalizing from Horizontal Linking Designs

*Stephen Murphy*

Predictive Accuracy of Model Inferences for Longitudinal Data with Self-Selection

*Tyler Matta*

**Session Title: Perspectives on Validation**

**Discussant:** John Poggio

Using a Theory of Action to Ensure High Quality Tests

*Cathy Wendler*

Teacher Evaluation Systems: Mapping a Validity Argument

*Tia Sukin*

Validity Evidence to Support Alternate Assessment Score Uses: Fidelity and Response Processes

*Meagan Karvonen*

Communicating Psychometric Research to Policymakers

*Andrea Lash*

**Session Title: Model Fit**

**Discussant:** Matthew Johnson

Evaluation of Item Response Theory item-fit indices

*Adrienne Sgammato*

Rethinking Complexity in Item Response Theory Models

*Wes Bonifay*

Measures for Identifying Non-monotonically Increasing Item Response Functions

*Nazia Rahman*

Evaluation of Limited Information IRT Model-fit Indices Applied to Complex Item Samples

*John Donoghue*

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# Individual Sessions

## **Session Title: Simulation- and Game-based Assessments**

**Discussant:** José Pablo González-Brenes

Aligning Process, Product and Survey Data: Bayes Nets for a Simulation-based Assessment

*Tiago Caliço*

Practical consequences of static, dynamic, or hierarchical Bayesian networks in game-based assessments

*Maria Bertling*

Impact of Feedback within Technology Enhanced Items on Perseverance and Performance

*Stacy Hayes*

Framework for Feedback and Remediation with Electronic Objective Structured Clinical Examinations

*Hollis Lai*

## **Session Title: Test Security and Cheating**

**Discussant:** Dmitry Belov

Applying Three Methods for Detecting Aberrant Tests to Detect Compromised Items

*Yu Zhang*

Detecting Two Patterns of Cheating with a Profile of Statistical Indices

*Gregory Hurtz*

Integrating Digital Assessment Meta-data for Psychometric and Validity Analysis

*Elizabeth Stone*

How Accurately Can We Detect Erasures?

*Han Yi Kim*

**12:25 PM -1:55 PM**

## **Session Title: Sensitivity of Value-Added Models**

**Discussant:** Katherine Castellano

Cohort and Content Variability in Value-Added Model School Effects

*Daniel Anderson*

Value-Added Modelling Considerations for School Evaluation Purposes

*Lucy Lu*

Implications of Differential Item Quality for Test Scores and Value-Added Estimates

*Robert Meyer*

Bradley Hanson Award 2016: Sun-Joo Cho

Bradley Hanson Award 2015: Chaitanya Ramineni

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# Individual Sessions

## **Session Title: Item and Scale Drift**

**Discussant:** Jonathan Weeks

The Impact of Item Parameter Drift in Computer Adaptive Testing (CAT)

*Nicole Risk*

Practice Differences and Item Parameter Drift in Computer Adaptive Testing

*Beyza Aksu Dunya*

Investigating Linear and Nonlinear Item Parameter Drift with Explanatory IRT Models

*Luke Stanke*

Quality Control Models for Tests with a Continuous Administration Mode

*Yuyu Fan*

Ensuring test fairness through monitoring the anchor test and covariates

*Marie Wiberg*

## **Session Title: Cognitive Diagnostic Model Extensions**

**Discussant:** Larry DeCarlo

A Polytomously-scored DINA model for Graded Response Data

*Dongbo Tu*

Information matrix estimation procedures for cognitive diagnostic model

*Tao Xin*

Higher-Order Cognitive Diagnostic Models for Polytomous Latent Attributes

*Peida Zhan*

Incorporating Latent and Observed Predictors in Cognitive Diagnostic Models

*Yoon Soo Park*

## **Electronic Board Session 1**

Examination of Over-Extraction of Latent Classes in the Mixed Rasch Model

*Sedat Sen*

Identifying a Credible Reference Variable for Measurement Invariance Testing

*Cheng-Hsien Li*

Using Partial Classification of Respondents to Reduce Classification Error in Mixture IRT

*Youngmi Cho*

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# Individual Sessions

Parameter Recovery in Multidimensional Item Response Theory Models under Complexity and Nonnormality

*Stephanie Underhill*

Psychometric Properties of Technology-Enhanced Item Formats

*Ashleigh Crabtree*

Using Technology-Enhanced Items to Measure Fifth Grade Geometry

*Jessica Masters*

A Multilevel MT-MM Approach for Estimating Trait Variance across Informant Types

*Tim Konold*

A Validation Study of the Learning Errors and Formative Feedback (LEAFF) Model

*Wei Tang*

Automatic Flagging of Items for Key Validation

*Füsun Şahin*

Evaluating the robustness of multidimensional IRT (MIRT) based growth modeling

*Hanwook Yoo*

Standard errors of measurement for group-level SGP with bootstrap procedures

*Jinah Choi*

Vertical Scaling of Test with Mixed Item Formats Including Technology Enhanced Items

*Dong-In Kim*

Full-information Bifactor Growth Models and Derivatives for Longitudinal Data

*Ying Li*

The Pseudo-Equivalent Groups Approach as an Alternative to Common-Item Equating

*Sooyeon Kim*

Equating with a Heterogeneous Target Population in the Common-item Design

*Ru Lu*

Examining the reliability of rubric scores to assess score report quality

*Mary Roduta Roberts*

Accuracy of Angoff Method Item Difficulty Estimation at Specific Cut Score Levels

*Tanya Longabach*

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# Individual Sessions

A Passage-based Approach to Setting Cutscores on ELA Assessments

*Marianne Perie*

Psychometric Characteristics of Technology Enhanced Items from a Computer-Based Interim Assessment Program

*Nurliyana Bukhari*

Exposure Control for Response Time-Informed Item Selection and Estimation in CAT

*Justin Kern*

Monitoring item drift using stochastic process control charts

*Hongwen Guo*

Reporting Subscores Using Different Multidimensional IRT Models in Sequencing Adaptive Testing

*Jing-Ru Xu*

Multidimensional IRT Model Estimation with Multivariate Non-normal Latent Distributions

*Tongyun Li*

Stochastic Ordering of the Latent Trait Using the Composite Score

*Feifei Li*

**2:15 PM -3:45 PM**

## **Session Title: Equating Mixed-Format Tests**

**Discussant:** Won-Chan Lee

Classification Error under Random Groups Equating Using Small Samples with Mixed-Format Tests

*Ja Young Kim*

Sample Size Requirement for Trend Scoring in Mixed-Format Test Equating

*Qing Yi*

Comparing IRT-based and CTT-based Pre-equating in Mixed-Format Testing

*Meichu Fan*

Equating Mixed-Format Tests using Automated Essay Scoring (AES) System Scores

*Süleyman Olgar*

## **Session Title: Standard Setting**

**Discussant:** Susan Davis-Becker

Exploring the Influence of Judge Proficiency on Standard-Setting Judgments for Medical Examinations

*Michael Peabody*

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# Individual Sessions

Setting Cut Scores on the AP Seminar Course and Exam Components

*Deanna Morgan*

Interval Validation Method for Setting Achievement Level Standards for Computerized Adaptive Tests

*William Insko*

The Use of Web 2.0 Tools in a Bookmark Standard Setting

*Jennifer Lord-Bessen*

## **Session Title: Diagnostic Classification Models: Applications**

**Discussant:** Jonathan Templin

Assessing Students' Competencies Through Cognitive Diagnosis Models: Validity and Reliability Evidences

*Miguel Sorrel*

Examining Effects of Pictorial Fraction Models on Student Test Responses

*Angela Broaddus*

Evaluation of Learning Map Structure Using Diagnostic Cognitive Modeling and Bayesian Networks

*Feng Chen*

Jasom Millman Promising Measurement Scholar Award 2015: Laine Bradshaw

## **Session Title: Advances in IRT Modelling and Estimation**

**Discussant:** Mark Hansen

Estimation of Mixture IRT Models from Nonnormally Distributed Data

*Tugba Karadavut*

Two-Tier Item Factor Models with Empirical Histograms as Nonnormal Latent Densities

*Hyesuk Jang*

Examining performance of the MH-RM algorithm with the 3PL multilevel MIRT model

*Bozhidar Bashkov*

Expectation-Expectation-Maximization: a feasible mixture-model-based MLE algorithm for the three-parameter logistic model

*Chanjin Zheng*

**4:05 PM -6:05 PM**

## **Session Title: Test Design and Construction**

**Discussant:** Chad Buckendahl

Potential Impact of Section Order on an Internet Based Admissions Test Scoring

*Naomi Gafni*

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# Individual Sessions

Automated Test-Form Generation with Constraint Programming (CP)

*Jie Li*

An item-matching heuristic method for a complex multiple forms test assembly problem

*Pei-Hua Chen*

The Effect of Foil-Reordering and Minor Editorial Revisions on Item Performance

*Tingting Chen*

Is Pre-Calibration Possible? A conceptual AIG framework, model, and empirical investigation

*Shauna Sweet*

NCME Annual Award 2016: Mark Gierl & Hollis Lai

NCME Annual Award 2015: Sandip Sinhiray, Shelby J. Haberman and Kyong Hee Chon

## **Session Title: Topics in Multistage and Adaptive Testing**

**Discussant:** Jonathan Rubright

A Top-down Approach to Designing a Computerized Multistage Test

*Xiao Luo*

Comparison of Non-parametric Routing Methods with IRT in Multistage Testing Design

*Evgeniya Reshetnyak*

A Modified Procedure in Applying CATS to Allow Unrestricted Answer Changing

*Zhongmin Cui*

The Expected Likelihood Ratio in Computerized Classification Testing

*Steven Nydick*

A Comparison of the Pretest Item Calibration Procedures in CAT

*Xia Mao*

Pretest Item Selection and Calibration under Computerized Adaptive Testing

*Shichao Wang*

Using Off-Grade Items in Adaptive Testing —a Differential Item Functioning Approach

*Shuqin Tao*

## **Session Title: Cognitive Diagnosis Models: Exploration and Evaluation**

**Discussant:** Laine Bradshaw

Bayesian Inferences of Q-matrix with Presence of Anchor Items

*Xiang Liu*

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# Individual Sessions

An Exploratory Approach to the Q-matrix via Bayesian Estimation

*Lawrence DeCarlo*

Parametric or Nonparametric—Evaluating Q-matrix Refinement Methods for DINA and DINO Models

*Yi-Fang Wu*

Comparing Attribute-level Reliability Estimation Methods in Diagnostic Assessments

*Chunmei Zheng*

Estimation of Diagnostic Classification Models without Constraints: Issues with Class Label Switching

*Hongling Lao*

Conditions Impacting Parameter and Profile Recovery under the NIDA Model

*Yanyan Fu*

Sequential Detection of Learning Multiple Skills in Cognitive Diagnosis

*Sangbeak Ye*

## **Electronic Board Session 2**

Response Styles Adjustments in Cross-Cultural Data Using the Mixture PCM IRT Model

*Bruce Austin*

Using Differential Item Functioning to Test for Inter-Rater Reliability in Educational Testing

*Sakine Gocer Sahin*

Incorporating Expert Priors in Estimation of Bayesian Networks for Computer Interactive Tasks

*Johnny Lin*

A Multidimensional Rater Effects Model

*Richard Schwarz*

Exploring Clinical Diagnosis Process Data with Cluster Analysis and Sequence Mining

*Feiming Li*

Validity Evidence for a Writing Assessment for Students with Significant Cognitive Disabilities

*Russell Swinburne Romine*

Alternative Approaches for Comparing Test Score Achievement Gap Trends

*Benjamin Shear*

The Implications of Reduced Testing for Teacher Accountability

*Jessica Alzen*

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# Individual Sessions

Examination of the Constructs Assessed by Published Tests of Critical Thinking

*Jennifer Kobrin*

The False Discovery Rate Applied to Large-Scale Testing Security Screenings

*Tanesia Beverly*

The Impact of Ignoring Multiple-Group Structure in Testlet-Based Tests on Ability Estimation

*Ming Li*

Reconceptualising Validity Incorporating Evidence Of User Interpretation

*Timothy O'Leary*

Comparing Imputation Methods for Trait Estimation Using the Rating Scale Model

*Christopher Runyon*

Single and Double Linking Designs Accessed by Population Invariance

*Yan Huo*

Equating Mixed-format Tests Using a Simple-Structure MIRT model under a CINEG design

*Jiwon Choi*

Pre-equating or Post-equating? Impact of Item Parameter Drift

*Wenchao Ma*

A Comparative Study on Fixed Item Parameter Calibration Methods

*Keyu Chen*

Examining Various Weighting Schemes Effect on Examinee Classification Using a Test Battery

*Qing Xie*

Module assembly for Logistic Positive Exponent model-based Multistage Adaptive Testing

*Thales Ricarte*

Online Calibration Pretest Item Selection Design

*Rui Guo*

Online multistage intelligent selection method for CD-CAT

*Fen LUO*

Data-Driven Simulations of False Positive Rates for Compound DIF Inference Rules

*Quinn Lathrop*

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# Individual Sessions

Simultaneous evaluation of DIF and its sources using hierarchical explanatory models

*William Skorupsk*

## Sunday, April 10, 2016: Individual Sessions

**10:35 AM - 12:05 PM**

### **Session Title: Advances in Equating**

**Discussant:** Benjamin Andrews

Bifactor MIRT Observed Score Equating of Testlet-Based Tests with Nonequivalent Groups

*Mengyao Zhang*

Hierarchical Generalized Linear Models (HGLMs) for Testlet-Based Test Equating

*Ting Xu*

The Local Tucker Method and its Standard Errors

*Sonya Powers*

Using Criticality Analysis to Select Loglinear Smoothing Models

*Arnond Sakworawich*

### **Session Title: Novel Approaches for the Analysis of Performance Data**

**Discussant:** William Skorupski

Combining a mixture IRT model with a nominal random item mixture model

*Hye-Jeong Choi*

Bayesian Estimation of Null Categories in Constructed-Response Items

*Yong He*

Crossed random-effects multidimensional IRT models for Performance Assessments with Multiple Raters

*Larry Thomas*

The FAST model: Integrating Learning Science and Measurement

*José González-Brenes*

Brenda Loyd Dissertation Award Presentation 2016: Yuanchoa Emily Bo

Brenda Loyd Dissertation Award 2015: Ronli Diakow

### **Electronic Board Session 3**

Multilevel IRT: When is Local Independence Violated?

*Christine DeMars*

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# Individual Sessions

The Higher-Order IRT Model for Global and Local Person Dependence

*Kuan-Yu Jin*

A Multidimensional Item Response Model for Local Dependence and Content Domain Structure

*Yue Liu*

Distinguishing Struggling Learners from Unmotivated Students in an Intelligent Tutoring System

*Kimberly Colvin*

Using Bayesian Networks for Prediction in a Comprehensive Assessment System

*Nathan Dadey*

Comparability within Computer-Based Assessment: Does Screen Size Matter?

*Jie Chen*

Cognitive Analysis of Responses Scored Using a Learning Progression for Proportional Reasoning

*Edith Graf*

Modeling Acquiescence and Extreme Response Styles and Wording Effects in Mixed-Format Items

*Hui-Fang Chen*

Accessibility: Consideration of the Learner, the Teacher, and Item Performance

*Bill Herrera*

Examining the Growth and Achievement of STEM Majors Using Latent Growth Models

*Heather Rickels*

Modeling NCTM and CCSS 5th Grade Math Growth Estimates and Interactions

*Dan Farley*

Norming and Psychometric Analysis for a Large-Scale Computerized Adaptive Early Literacy Assessment

*James Olsen*

The Impact of Ignoring the Multiple-Group Structure of Item Response Data

*Yoon Jeong Kang*

Influential Factors on College Retention based on Tree Models and Random Forests

*Chansoon Lee*

Detecting Non-effortful Responses to Short-Answer Items

*Ruth Childs*

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# Individual Sessions

Item Difficulty Modeling for an ELL Reading Comprehension Test Using LLTM

*Lingyun Gao*

The Effect of Unmotivated Test-takers on Field Test Item Calibrations

*H. Jane Rogers*

The Nonparametric Method To Analyze Multiple-Choice Items: Using Hamming Distance Method

*Shibei Xiang*

Diagnostic Classification Modeling in Student Learning Progression Assessment

*Ruhan Circi*

Nonparametric Diagnostic Classification Analysis for Testlet-based Tests

*Shuying Sha*

An Application of Second-Order Growth Mixture Model for Educational Longitudinal Research

*Xin Li*

Confirmatory Factor Analysis of TIMSS' Mathematics Attitude Items with Recommendations for Change

*Thomas Hogan*

Controlling for Multiplicity in Structural Equation Models

*Michael Zweifel*

**2:45 PM- 4:15 PM**

**Session Title: Psychometrics of Teacher Ratings**

**Discussant:** Tia Sukin

Psychometric Characteristics and Item Category Maps for a Student Evaluation of Teaching

*Patrick Meyer*

Psychometric Stability of Tripod Student Perception Surveys with Reduced Data

*Catherine McClellan*

Does the 'Type' of Rater Matter when Evaluating Special Education Teachers?

*Janelle Lawson*

Measuring Score Consistency between Teacher and Reader Scored Grades

*Yang Zhao*

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# Individual Sessions

## **Session Title: Multidimensionality**

**Discussant:** Mark Reckase

An Index for Characterizing Construct Shift in Vertical Scales

*Jonathan Weeks*

Multidimensional test assembly of parallel test forms using a Kulback-Leibler Information Index

*Dries Debeer*

Evaluating the Use of Unidimensional IRT Procedures for Multidimensional Data

*Wei Wang*

Classification Consistency and Accuracy Indices for Multidimensional Item Response Theory

*Wenyi Wang*

## **Session Title: Validating “Noncognitive”/Nontraditional Constructs I**

**Discussant:** Jennifer Kobrin

Improving the NAEP SES Measure: Can NAEP Learn from Other Survey Programs?

*Young Yee Kim*

Investigating SES Using the NAEP-HSLS Overlap Sample

*Burhan Ogut*

Rethinking the Measurement of Students’ Beliefs About Intelligence

*Andrew Maul*

Validating Relationships Among Mathematics-related Self Efficacy, Self Concept, Anxiety and Achievement Measures

*Madhabi Chatterji*

## **Session Title: Invariance**

**Discussant:** Ha Phan

The Impact of Measurement Noninvariance in Longitudinal Item Response Modeling

*In-Hee Choi*

Measurement Invariance in International Large-scale Assessments: Ordered-Categorical Outcomes in a Multidimensional Context

*Dubravka Svetina*

Assessing Uniform Measurement Invariance Using Multilevel Latent Modeling

*Carrie Morris*

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# Individual Sessions

Population Invariance Of Equating Functions Across Subpopulations for a Large Scale Assessment

*Lucy Amati*

## **Session Title: Detecting Aberrant Response Behaviors**

**Discussant:** John Donoghue

Methods that Incorporate Response Times and Responses for Excluding Data Irregularities

*Heru Widiatmo*

Online Detection of Compromised Items with Response Times in CAT

*Hyeon-Ah Kang*

Detecting Examinee Preknowledge of Items: A Comparison of Methods

*Xi Wang*

Development of an R package for Statistical Analysis in Test Security

*Jiyeon Park*

**4:35 PM -6:05 PM**

## **Session Title: Student Growth Percentiles**

**Discussant:** Damian Betebenner

Jason Millman Promising Measurement Scholar Award Presentation 2016: Addressing Shortcomings in Student Growth Percentiles for Evaluating Educator Performance

*Katherine Castellano*

Cluster Growth Percentiles: An Alternative to Aggregated Student Growth Percentiles

*Scott Monroe*

Evaluating Student Growth Percentiles: Perspective of Test-Retest Reliability

*Johnny Denbleyker*

## **Session Title: Equating: From Theory to Practice**

**Discussant:** Ye Tong

Similarities between Equating Equivalents Using Presmoothing and Postsmoothing

*Hyung Jin Kim*

Stability of IRT Calibration Methods for the Common-Item Nonequivalent Groups Equating Design

*Yujin Kang*

Subscore Equating and Reporting

*Euijin Lim*

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# Individual Sessions

On the Effect of Varying Difficulty of Anchor Tests on Equating Accuracy

*Irina Grabovsky*

## **Session Title: Issues in Ability Estimation and Scoring**

**Discussant:** Peter van Rijn

Practical and Policy Impacts of Ignoring Nested Data Structures on Ability Estimation

*Kevin Shropshire*

MIRT Ability Estimation: Effects of Ignoring the Partially Compensatory Nature

*Janine Buchholz*

Interval estimation of scale scores in item response theory

*Yang Liu*

Applying the Hajek Approach in the Delta Method of Variance Estimation

*Jiahe Qian*

## **Electronic Board Session 4**

Asymmetric ICCs as an Alternative Approach to Accommodate Guessing Effects

*Sora Lee*

Software Note for PARSCALE

*Ying Lu*

Stochastic Approximation EM for Exploratory Item Factor Analysis

*Eugene Geis*

Reporting Student Growth Percentiles: A Novel Tool for Displaying Growth

*David Swift*

The Impact of Plausible Values When Used Incorrectly

*Kyung Sun Chung*

Missing Data – On How to Avoid Omitted and Not-Reached Items

*Miriam Hacker*

Challenging Measurement in the Field of Multicultural Education: Validating a New Scale

*Jessie Montana Cain*

Automated Test Assembly Methods using Monte-Carlo-based Linear-on-the-fly (LOFT) Techniques

*John Weiner*

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# Individual Sessions

DIF Related to Test Takers' Culture Background and Language Proficiency

*Jinghua Liu*

Can a Two-Item Essay Test be Reliable and Valid?

*Brent Bridgeman*

Selecting Automatic Scoring Features using Criticality Analysis

*Han-Hui Por*

A Meta-Analysis of the Predictive Validity of Graduate Management Admission Test

*Haixia Qian*

A fully Bayesian approach to smoothing the linking function in equipercentile equating

*Zhehan Jiang*

Conducting a post-equating check to detect unstable items on pre-equated tests

*Keyin Wang*

An evaluation of methods for establishing crosswalks between instruments

*Mark Hansen*

Exploration of Factors Affecting the Necessity of Reporting Test Subscores

*Xiaolin Wang*

Evaluation of Psychometric Stability of Generated Items

*Yu-Lan Su*

Creating Parallel Forms with Small Samples of Examinees

*Lisa Keller*

Higher-order G-DINA Model for Polytomous Attributes

*Qin Yi*

Fine-Grained Skill Analyses in  $\delta$ -Method for Enhancing Q-Matrix Validation

*Ragip Terzi*

Generalized DCMs for Option-Based Scoring

*Oksana Naumenko*

Evaluating Sampling Variability and Measurement Precision of Aggregated Scores in Large-Scale Assessment

*Xiaohong Gao*

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# Individual Sessions

The Model for Dichotomously-Scored Multiple-Attempt Multiple-Choice Items

*Igor Himelfarb*

Classical Test Theory Embraces Cognitive Load Theory:: Measurement Challenges Keeping It Simple

*Charles Secolsky*

## Monday, April 11, 2016: Individual Sessions

**8:15 AM -10:15 AM**

### **Session Title: Issues in Automated Scoring**

**Discussant:** Shayne Miel

Modeling the Global Text Features for Enhancing the Automated Scoring System

*Syed Muhammad Fahad Latifi*

Discretization of Scores from an Automated Scoring Engine Using Gradient Boosted Machines

*Scott Wood*

Automated Scoring of Constructed Response Items Measuring Computational Thinking

*Daisy Rutstein*

Automated Scoring of Complex Technology-Enhanced Tasks in a Middle School Science Unit

*Samuel Crane*

Comparison of Human Rater and Automatic Scoring on Students' Ability Estimation

*Zhen Wang*

Issues to Consider When Examining Differential Item Functioning in Essays

*Matthew Schultz*

### **Session Title: Multidimensional and Multivariate Methods**

**Discussant:** Irina Grabovsky

Information Functions of Multidimensional Forced-Choice IRT models

*Seang-hwane Joo*

Investigating Reverse-Worded Matched Item Pairs Using the GPCM and NRM

*Ki Matlock*

Item Response Theory Models for Ipsative Tests with Polytomous Multidimensional Forced-Choice Items

*Xue-Lan QIU*

Multivariate Generalizability Theory and Conventional Approaches for Obtaining More Accurate Disattenuated Correlations

*Walter Vispoel*

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# Individual Sessions

Comparing a Modified Alpha Coefficient to Split-Half Approaches in the LOFT Framework

*Tammy Trierweiler*

Estimating Correlations Among School Relevant Categories in a Multidimensional Space

*Se-Kang Kim*

**10:35 AM -12:05 PM**

**Session Title: Validating “Noncognitive”/Nontraditional Constructs II**

**Discussant:** Andrew Maul

Using Response Times to Enhance Scores on Measures of Executive Functioning

*Brooke Magnus*

A Structural Equation Model Replication Study of Influences on Attitudes Towards Science

*Rajendra Chattergoon*

Experimental Validation Strategies Using the Example of a Performance-based ICT-Skills Test

*Lena Engelhardt*

Measuring Being Bullied in the Context of Racial and Religious DIF

*Kory Vue*

**Session Title: Differential Functioning - Theory and Applications**

**Discussant:** Catherine McClellan

Using the Partial Credit Model to investigate the comparability of examination standards

*Qingping He*

Handling Missing Data on DIF Detection under the MIMIC Model

*Daniella Reboucas*

Properties of Matching Criterion and Its Effect on Mantel-Haenszel DIF Procedure

*Usama Ali*

Impact of Differential Bundle Functioning on Test Performance of Focal Examinees

*Kathleen Banks*

**Session Title: Latent Regression and Related Topics**

**Discussant:** Matthias von Davier

Multidimensional IRT calibration with simultaneous latent regression in large-scale survey assessments

*Lauren Harrell*

Single-stage vs. Two-stage Estimation of Latent Regression IRT Models

*Peter van Rijn*

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# Individual Sessions

Improving score precision in large-scale assessments with the multivariate Bayesian Lasso

*Steven Culpepper*

Performance of missing data approaches in retrieving group-level parameters

*Steffi Pohl*

**12:25 PM -1:55 PM**

## **Session Title: Item Design and Development**

**Discussant:** Ruth Childs

A Mixed Methods Examination of Reverse-Scored Items in Adolescent Populations

*Carol Barry*

Effects of Writing Skill on Scores on Justification/Evaluation Mathematics Items

*Tim Hazen*

Economy of Multiple-Choice (MC) Versus Constructed-Response (CR) Items: Does CR Always Lose?

*Xuan-Adele Tan*

Applying the Q-diffusion IRT Model to Assess the Impact of Multi-Media Items

*Nick Redell*

## **Session Title: English Learners**

**Discussant:** Michael Rodriguez

Using Translanguaging to Assess Math Knowledge of Emergent Bilinguals: An Exploratory Study

*Alejandra Garcia*

Estimating effects of reclassification of English Learners using a propensity score approach

*Jinok Kim*

Comparability Study of Computer-based and Paper-based Tests for English Language Learners

*Nami Shin*

Applying Hierarchical Latent Regression Models in Cross Lingual Assessment

*Haiyan Lin*

## **Session Title: Differential Item and Test Functioning**

**Discussant:** Dubravka Svetina

Examining Sources of Gender DIF Using Cross-Classified Multilevel IRT Models

*Liuhua Cai*

Comparing Differential Test Functioning (Dtf) For Dfit Mantel-Haenszel/Liu-Agresti Variance

*C. Hunter*

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# Individual Sessions

When can MIRT Models be a Solution for DIF?

*Yuan-Ling Liaw*

Power Formulas for Uniform and Non-Uniform Logistic Regression DIF Tests

*Zhushan Li*

Detecting Group Differences in Item Response Processes: An Explanatory Speed-Accuracy Mixture Model

*Heather Hayes*

## **Electronic Board Session 5**

Extension of the  $Iz^*$  Statistic to Mixed-format Tests

*Sandip Sinharay*

Examining Two New Fit Statistics for Dichotomous IRT Models

*Leanne Freeman*

Automated Marking of Written Response Items in a National Medical Licensing Examination

*Maxim Morin*

Automatic scoring system for a short answer in Korean large scale assessment

*Eunhee Noh*

Evaluating Automated Rater Performance: Is the State of the Art Improving?

*Michelle Boyer*

Test-Taking Strategies and Ability Estimates in a Speeded Computerized Adaptive Test

*Hua Wei*

Detecting Cheating When Examinees and Accomplices Are Not Physically Co-located

*Chi-Yu Huang*

Detecting Differential Item Functioning (DIF) Using Boosting Regression Tree

*Xin Luo*

Using Growth Mixture Modeling to Explore Test Takers' Score Change Patterns

*Youhua Wei*

Studies of growth in reading in a vertically equated national reading test

*David Andrich*

Examining the Impact of Longitudinal Measurement Invariance Violations on Growth Models

*Kelli Samonte*

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# Individual Sessions

Defining On-Track Towards College Readiness Using Advanced Latent Growth Modeling Techniques

*Anthony Fina*

Impact of Sample Size and the number of Common Items on Equating

*Hongyu Diao*

Effect of Test Speededness on Item Parameter Estimation and Equating

*Can Shao*

Computation of Conditional Standard Error of Measurement with Compound Multinomial Models

*Hongling Wang*

Exploring the within-item speed-accuracy relationship with the profile method for computer-based tests

*Shu-chuan Kao*

Impact of items with minor drift on examinee classification

*Aijun Wang*

Detecting DIF on Polytomous Items of Tests with Special Education Populations

*Kwang-lee Chu*

Online Calibration of Polytomous Items Using the Generalized Partial Credit Model

*Yi Zheng*

Identifying Intra-individual Significant Growth in K-12 Reading and Mathematics with Adaptive Testing

*Chaitali Phadke*

A Comparison of Estimation Techniques for IRT models with Small Samples

*Holmes Finch*

Comparing Three Procedures for Preknowledge Detection in Computerized Adaptive Testing

*Jin Zhang*

Establishing Critical Values for PARSCALE G2 Item Fit Statistics

*Lixiong Gu*

Small Sample Equating for Different Uses of Test Scores in Higher Education

*HyeSun Lee*





# Individual Sessions

**2:15 PM -3:45 PM**

**Session Title: Innovations in Assessment**

**Discussant:** Edith Aurora Graf

Investigating the comparability of examination difficulty using comparative judgement and Rasch modelling  
*Stephen Holmes*

Improvements in Automated Capturing of Psycho-linguistic Features in Reading Assessment Text  
*Makoto Sano*

Generating Rubric Scores From Pairwise Comparisons  
*Shayne Miel*

Investigating Sequential Item Effects in a Testlet Model  
*William Muntean*

**Session Title: Technology-based Assessments**

**Discussant:** Mengxiao Zhu

Theoretical Framework for Log-Data in Technology-Based Assessments with Empirical Applications from PISA  
*Ulf Kroehne*

Investigating the Relations of Writing Process Features and the Final Product  
*Chen Li*

Interpretation of a Complex Assessment Focusing on Validity and Appropriate Reliability Assessment  
*Steffen Brandt*

Brenda Loyd Dissertation Award Presentation 2016: Youn-Jeng Choi

**4:05 PM -6:05 PM**

**Session Title: Practical Issues in Equating**

**Discussant:** Dongmei Li

Empirical Item Characteristic Curve Pre-equating with the Presence of Test Speededness  
*Yuxi Qiu*

Investigating the Effect of Missing and Speeded Responses in Equating  
*Hongwook Suh*

The Effects of Non-Representative Common Items on Linear Equating Relationships  
*Lu Wang*

Pseudo-Equating Without Common Items or Common Persons  
*Nooree Huh*

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# Individual Sessions

Equating Item Difficulty Under Sub-Optimal Conditions

*Michael Walker*

Impact of Drifted Common Items on Proficiency Estimates under the CIECP Design

*Juan Chen*

## **Session Title: The Great Subscore Debate**

**Discussant:** Sandip Sinharay

How Worthless Subscores are Causing Excessively Long Tests

*Howard Wainer*

An alternative perspective on subscores and their value

*Yuanchao Emily Bo*

Masking Distinct and Reliable Subscores: A Call to Assess Added Value Invariance

*Joseph Rios*

Why do value added ratios differ under different scoring approaches?

*Brian Leventhal*

Accuracy of the Person-Level Index for Conditional Subscore Reporting

*Richard Feinberg*

The Validity of Augmented Subscores when Used for Different Purposes

*Marc Gessaroli*

## **Session Title: Scores and Scoring Rules**

**Discussant:** Steven Culpepper

The Relationship Between Pass Rate and Multiple Attempts

*Ying Cheng*

Classification Consistency and Accuracy with Atypical Score Distributions

*Stella Kim*

A psychometric evaluation of item-level scoring rules for educational tests

*Frederik Coomans*

For Want of Subscores in Large-Scale Educational Survey Assessment: A Simulation Study

*Nuo Xi*

Comparability of essay scores across response-modes: A complementary view using multiple approaches

*Nina Deng*

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# Board Poster Sessions

## Saturday, April 9, 2016: GSIC Electronic Board Poster Sessions

**2:15 PM-3:45 PM**

### **GSIC Student Issues Poster Session I**

**Graduate Student Issues Committee**

Brian Leventhal, Chair

Laine Bradshaw, Jeremy Brown, Evelyn Johnson, Jerusha Gerstner, Ray Reichenberg

Testing Two Alternatives to a Value-Added Model for Teacher Capability

*Nicole Jess*

Using Response Time in Cognitive Diagnosis Models

*Nathan Minchen*

An Exhaustive Search for Identifying Hierarchical Attribute Structure

*Lokman Akbay*

Performance of DIMTEST and Generalized Dimensionality Discrepancy Statistics for Assessing Unidimensionality

*Ray Reichenberg*

Self-directed Learning Oriented Assessments Without High Technologies

*Jiahui Zhang*

Vertical Scaling Under Rasch Testlet Model

*Mingcai Zhang*

Comparing Multilevel DIF Detecting Methods : Focusing on Mantel-Haenszel Method and SIBTEST

*Dasom Hwang*

Detecting Non-fitting items for the Testlet Response Model

*Ryan Lynch*

An Iterative Technique to Improve Test Cheating Detection using the Omega Statistic

*Hotaka Maeda*

Parameter Recovery in the Multidimensional Graded Response Item Response Theory Model

*Shengyu Jiang*

The Impact of Ignoring a Multilevel Structure in Mixture Item Response Models

*Woo-yeol Lee*

Determining the Diagnostic Properties of the Force Concept Inventory

*Mary Norris*

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# Board Poster Sessions

Understanding School Truancy: Risk-Need Latent Profiles of Adolescents

*Andrew Iverson*

Utilizing nonignorable missing data information in item response theory

*Daniel Lee*

Investigating IPD Amplification and Cancellation at the Testlet-level on Model Parameter Estimation

*Rosalyn Bryant*

Measuring Reading Comprehension Through Automated Analysis of Students' Small-Group Discussions

*Audra Kosh*

Differential Item Functioning Among Students with Disabilities and English Language Learners

*Kevin Krost*

Extreme Response Style: Which Model is Best?

*Brian Leventhal*

Evaluating DIF Detection Procedure in the Context of the MIRID

*Isaac Li*

Item Difficulty Modeling of Computer-Adaptive Reading Comprehension Items Using Explanatory IRT Models

*Yukie Toyama*

Recovering the Item Model Structure from Automatically Generated Items Using Graph Theory

*Xinxin Zhang*

The Impact of Item Difficulty on Diagnostic Classification Models

*Ren Liu*

Sensitivity to multidimensionality of mixture IRT models

*Yoonsun Jang*

Monte Carlo Methods for Approximating Optimal Item Selection in CAT

*Tianyu Wang*

The Relationship between Q-Matrix Loading, Item Usage, and Estimation Precision in CD-CAT

*Susu Zhang*

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# Board Poster Sessions

## Sunday, April 10, 2016: GSIC Electronic Board Poster Sessions

**2:45 PM-4:15 PM**

### **GSIC Student Issues Poster Session II**

**Graduate Student Issues Committee**

Brian Leventhal, Chair

*Laine Bradshaw, Jeremy Brown, Evelyn Johnson, Jerusha Gerstner, Ray Reichenberg*

Examining Test Irregularities Using Multidimensional Scaling Approach

*Qing Xie*

The influence of measurement invariance in the two-wave, longitudinal mediation model

*Oscar Gonzalez*

Parallel Analysis of Unidimensionality with PCA and PAF in Dichotomously Scored Data

*Ismail Cukadar*

Reducing Data Demands of Using a Multidimensional Unfolding IRT Model

*Elizabeth Williams*

Challenging Conditions for MML and MH-RM Estimation of Multidimensional IRT Models

*Derek Sauder*

The Effects of Dimensionality and Dimensional Structure on Composite Scores and Subscores

*Unhee Ju*

Simple Structure MIRT True Score Equating for Mixed-format Tests

*Stella Kim*

Conditions of Evaluating Models with Approximate Measurement Invariance Using Bayesian Estimation

*Ya Zhang*

Detecting Nonlinear Item Position Effects with a Multilevel Model

*Logan Rome*

Comparison of scoring methods for different item types

*Hongyu Diao*

Estimating Reliability of Testlet-based Tests with Balanced and Unbalanced Data

*Nana Kim*

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# Board Poster Sessions

Hierarchical Bayesian Modeling for Peer Assessment in a Massive Open Online Course

*Yao Xiong*

The Impact of Model Misspecification in the DCM-CAT

*Yu Bao*

Interval Estimation of IRT Proficiency in Mixed-Format Tests

*Shichao Wang*

Analysis of Item Difficulty Predictors for Item Pool Development

*Feng Chen*

Regressing Multiple Predictors into a Cognitive Diagnostic Model

*Kuan Xing*

Non-Instructional Factors that Affect Student Mathematics Performance

*Michelle Boyer*

A Procedure to Improve Item Parameter Estimation in Presence of Test Speededness

*Can Shao*

Simulation Study of Estimation Methods in Multidimensional Student Response Data

*Philip Grosse*

Detecting Testlet Effect Using Graph Theory

*Xin Luo*

Assessing Item Response Theory Dimensionality Assumptions Using DIMTEST and NOHARM-based Methods

*Kirsten Hochstedt*

Evaluating the invariance property in IRT: A case of multi-state assessment

*Seunghee Chung*

Evaluating Predictive Accuracy of Alternative IRT Models and Scoring Methods

*Charles Iaconangelo*

A Comparison of Estimation Methods for the Multi-unidimensional three-parameter IRT Model

*Tzu Chun Kuo*

A Methodology for Item Condensation Rule Identification in Cognitive Diagnostic Models

*Diego Luna Bazaldua*

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