IMPS 2020 • Virtual • July 14-17
Conference Program

TUESDAY · JULY 14

8:45 a.m.-9:00 a.m. US Eastern Time	**STAGE 1** *Welcome and Opening Remarks* *Chair: Daniel Bolt*

9:00 a.m.-9:55 a.m. US Eastern Time	**STAGE 1** **Keynote Speaker: Michel Wedel** *Psychometric Analysis of Eye Movements During Search and Choice* *Chair: Irini Moustaki*

10:00 a.m.-10:35 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3	STAGE 4
1.1: Process Data: Core Concepts and Practical Applications (Symposium) *Chair: Markus Broer*	*1.2: Bayesian Inference* *Chair: Silia Vitoratou*	*1.3: Differential Item Functioning* *Chair: Jing Lu*	*1.4: Advances in Cognitive Diagnostic Modeling* *Chair: Matthew Madison*
Markus Broer PROCESS DATA: CORE CONCEPTS AND PRACTICAL APPLICATIONS	**David Kaplan** BAYESIAN PROBABILISTIC FORECASTING WITH STATE NAEP DATA	**David Chen** INVESTIGATING ITEM PARAMETER DRIFT ON DIFFERENT IRT LINKING METHODS	**Siqi He** IDENTIFICATION AND ESTIMATION OF DIAGNOSTIC MODELS FOR ORDINAL RESPONSES WITH POLYTOMOUS ATTRIBUTES
Tiago Calico SO YOU THINK YOU CAN PROCESS: ONTOLOGICAL AND METHODOLOGICAL BARRIERS TO INCORPORATING EVENT DATA IN PSYCHOMETRIC MODELS	**Sinan Yavuz** COMPARISON OF MODEL AVERAGING AND MODEL SELECTION METHODS	**Dongmei Li** POPULATION INVARIANCE OF EQUATING FOR SUBGROUPS DIFFERING IN ACHIEVEMENT LEVEL	**James Balamuta** AN EXPLORATORY GENERAL DIAGNOSTIC MODEL USING THE LOGIT LINK FUNCTION
Fusun Sahin TO PENALIZE OR NOT TO PENALIZE NOT-REACHED ITEMS: EFFECTS ON ITEM AND ABILITY ESTIMATIONS	**Maximilian Maier** BAYESIAN BENEFITS FOR META-ANALYSIS IN THE PRESENCE OF PUBLICATION BIAS	**Weimeng Wang** AN ANCHOR-FREE TEST OF DIFFERENTIAL ITEM FUNCTIONING	**Jiaying Xiao** A COGNITIVE DIAGNOSTIC MODEL FOR HIERARCHICAL ATTRIBUTES AND LEARNING TRAJECTORIES
Xiaying Zheng USING RESPONSE TIME MODELING TO DETECT SPEEDED EXAMINEES WITH MISSING RESPONSES	**Yanling Li** FORECASTING ALCOHOL USE WITH MISSING DATA: A BAYESIAN APPROACH	**Xiaying Zheng** A CAUTIONARY NOTE ON USING THE MANTEL-HAENSZEL METHOD TO DETECT DIFFERENTIAL ITEM FUNCTIONING OF 3PL ITEMS	**Yinghan Chen** ESTIMATION OF K AND Q MATRIX IN RESTRICTED LATENT CLASS MODELS
	Jia Quan THE IMPACT OF SAMPLE SIZE ON EXCHANGEABILITY IN BAYESIAN SYNTHESIS		

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

STAGE 1	STAGE 2	STAGE 3	STAGE 4
2.1: Aberrant Response Behavior *Chair: Jorge Tendeiro*	*2.2: Multilevel Analysis* *Chair: Holger Brandt*	*2.3: Novel Constructs and Formats* *Chair: Peter Halpin*	*2.4: Causal Inference* *Chair: Jee-Seon Kim*
Xiaoou Li COMPOUND SEQUENTIAL DETECTION OF COMPROMISED ITEMS	**Hsiu-Ting Yu** EFFECT SIZE MEASURES FOR MULTILEVEL MODELS: CONCEPTUAL AND COMPUTATION ISSUES	**Anne Thissen-Roe** ESTIMATING APPROXIMATE NUMBER SENSE (ANS) ACUITY	**Youmi Suk** EVALUATING THE EFFECTS OF EXTENDED TIME ACCOMMODATIONS IN OBSERVATIONAL STUDIES
Hotaka Maeda MODELING UNIQUE ITEM RESPONSE PATTERNS OF SUSPECTED ABERRANT EXAMINEES	**Hok Chio Lai** MULTILEVEL BOOTSTRAP CONFIDENCE INTERVALS FOR STANDARDIZED EFFECT SIZE	**Lewis Baker** DIFFERENCES IN SYMBOLIC AND NON-SYMBOLIC MEASURES OF APPROXIMATE NUMBER SENSE	**Soojin Park** ESTIMATION AND SENSITIVITY ANALYSIS FOR CAUSAL DECOMPOSITION ANALYSIS IN DISPARITY RESEARCH
Hongyue Zhu BAYESIAN CHANGE POINT ANALYSIS FOR DETECTING ABERRANT RESPONSE BEHAVIORS	**Diego Carrasco** STUDENTS RATING THE LEVELS OF DISCUSSION IN THE CLASSROOM AND SHOWING LACK OF CONSENSUS	**Hojjatolla Farahani** AFTER THEMATIC ANALYSIS: INTRODUCING THE FUZZY THEMATIC NETWORK ANALYSIS IN PSYCHOLOGICAL RESEARCH	**Satoshi Usami** A POTENTIAL OUTCOME APPROACH TO WITHIN-PERSON CAUSAL EFFECTS OF TIME-VARYING CONTINUOUS TREATMENTS: AN EMPHASIS ON CONTROLLING PERSON'S STABLE TRAIT FACTORS
Kaiwen Man ASSESSING PRE-KNOWLEDGE CHEATING VIA INNOVATIVE TECHNOLOGY-ENHANCED MEASURES	**Sacha Epskamp** INTRODUCING PSYCHONETRICS, AN R PACKAGE FOR STRUCTURAL EQUATION MODELLING	**E. Manolo Romero Escobar** RANK-ORDER RESPONSE ITEM SCORING IN AN ABILITY-BASED BATTERY OF EMOTIONAL INTELLIGENCE	**Keith Markus** NON-CAUSAL DETERMINATION: IMPLICATIONS FOR CAUSAL EXPLANATION AND CAUSAL MODELING
Daniella Rebouças RESPONSE TIMES AND CLICK-THROUGH DATA FOR DETECTION OF CARELESS RESPONSES	**Jorge Bazan** RESIDUAL ANALYSIS IN SINGLE LEVEL AND MULTILEVEL RASCH COUNTS MODELS	**Jing Chen** PSYCHOMETRIC MODELS FOR NEXT GENERATION SCIENCE STANDARDS ALIGNED SCIENCE ASSESSMENTS	

TUESDAY · JULY 14

STAGE 1	STAGE 2	STAGE 3	STAGE 4
3.1: Regression Modeling and Prediction *Chair: Kenneth Wilcox*	*3.2: Reliability* *Chair: Jorge González*	*3.3: Testlets and Hierarchical Factor Structure* *Chair: Ken Fujimoto*	*3.4: Response Times and Diagnostic Modeling* *Chair: Xiaoou Li*

11:20 a.m.-11:55 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3	STAGE 4
Eduardo Alarcón-Bustamante NEW INSIGHTS ON MARGINAL EFFECTS	Debby ten Hove SELECTING THE APPROPRIATE ICC TO ESTIMATE INTERRATER RELIABILITY	Chen Tian ROTATION CRITERION THAT ENCOURAGES A HIERARCHICAL FACTOR STRUCTURE	Xin Qiao NONLINEAR LATENT EFFECTS IN COGNITIVE DIAGNOSTIC MODELING INCORPORATING RESPONSE TIMES
Jorge Tendeiro ROBUSTNESS OF BAYESIAN NULL HYPOTHESIS TESTING UNDER OPTIONAL STOPPING	Pedro Henrique Ribeiro Santiago A NEW APPROACH FOR BAYESIAN OMEGA ESTIMATION	Xin Xu LATENT VARIABLE SELECTION FOR TESTLET-BASED TESTS	Ummugul Bezirhan JOINT CONDITIONAL COGNITIVE DIAGNOSTIC MODEL FOR RESPONSE TIME AND ACCURACY
Sierra Bainter SSVS FOR PSYCH: AN ONLINE TOOL FOR PERFORMING STOCHASTIC SEARCH VARIABLE SELECTION	Nadja Bodner A COMPARISON OF INTERRATER AGREEMENT MEASURES FOR BINARY TIME SERIES	Evan Olson A MULTILEVEL TESTLET MODEL FOR RESPONSES AND RESPONSE TIMES	Yi Yang MODELING NONIGNORABLE MISSING DATA DUE TO TIME LIMITS USING RESPONSE TIMES IN DIAGNOSTIC CLASSIFICATION MODELS
Joshua Chiroma Gandi PARSIMONY-PARAMETER MODEL FOR EVIDENTIAL ACCURACY AND PRECISION	Zhenqiu Lu A STRUCTURAL EQUATION MODELING APPROACH TO MULTILEVEL RELIABILITY ANALYSIS	Nana Kim APPLICATION OF NONCOMPENSATORY MIRT TO PASSAGE-BASED TESTS	Hong Jiao JOINT MODELING OF RESPONSES, RESPONSE TIME, AND ANSWER CHANGE BEHAVIORS FOR COGNITIVE DIAGNOSIS

12:00 p.m.-12:55 p.m. US Eastern Time

STAGE 1	STAGE 2
Invited Talk: Zhiyong Johnny Zhang *Psychometric Models for Social Network Data Analysis* *Chair: Sophia Rabe-Hesketh*	**Invited Talk: Anna-Lena Schubert** *Neurocognitive Psychometric Approaches to the Measurement of Individual Differences in Cognitive Processes* *Chair: Matthias von Davier*

WEDNESDAY · JULY 15

9:00 a.m.-9:25 a.m. US Eastern Time

STAGE 1	STAGE 2
Spotlight Talk: Amanda Luby *Psychometrics for Forensic Decision-Making* *Chair: David Kaplan*	**Spotlight Talk: Holger Brandt** *Detecting Mediator Variables when Important Confounders are Omitted* *Chair: Eric Loken*

9:30 a.m.-9:55 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3
Spotlight Talk: Susu Zhang *Uncovering Cross-Situational Consistency with Canonical Correlation Analysis of Process Data* *Chair: Qiwei He*	**Spotlight Talk: JoonHo Lee** *Bayesian Deconvolution for Measuring Treatment Effect Heterogenieity in Multisite Trials* *Chair: Marie Wiberg*	**Spotlight Talk: Kenneth Wilcox** *Combining Topic Modeling and Regression: Supervised Topic Modeling with Covariates* *Chair: Matt Johnson*

10:00 a.m.-10:35 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3	STAGE 4
4.1: Poster Session 1 *Chair: Oscar Gonzalez*	*4.2: Poster Session 2* *Chair: Ya-Hui Su*	*4.3: Poster Session 3* *Chair: Nadja Bodner*	*4.4: Poster Session 4* *Chair: Anne Thissen-Roe*
Yu Liu MODEL FIT IN ORDINAL SEM WITH MISSINGNESS: D2 VS MI2S	Qi (Helen) Huang THE POTENTIAL FOR INTERPRETATIONAL CONFOUNDING IN DISCRETE SKILLS MODELS	John Denbleyker REVIVING LORD-MCNEMAR'S TRUE GAIN SCORE IN THE MODERN WORLD	Onur Demirkaya DETECTING ITEM PREKNOWLEDGE WITH SPEED, ACCURACY AND REVISITS
Allison Cooperman A COMPREHENSIVE REVIEW OF HEYWOOD CASES IN EXPLORATORY FACTOR ANALYSIS	Gamze Kartal EXPLORING A NEW CTT METHOD FOR CLASSROOM CDM	Kazuki Hori LATENT CURVE MODEL APPROACH TO THE TREND IN TIME-VARYING PREDICTOR	Jiawei Xiong AN EMPIRICAL STUDY OF DEVELOPING AUTOMATED SCORING ENGINE USING SUPERVISED LATENT DIRICHLET ALLOCATION
Ting Sun VALIDATING A WRITING SELF-EFFICACY MEASURE USING CFA AND IRT ANALYSES	Yoshito Tan BAYESIAN PENALIZATION FOR VARIABLE SELECTION IN EXPLANATORY COGNITIVE DIAGNOSTIC MODELS	Kahyun Lee VALIDITY OF THE SINGLE-ITEM MEASUREMENT OF STATE EMOTION AND STATE SELF-ESTEEM IN THE EXPERIENCE SAMPLING METHOD	Merve Sarac A SCORE DIFFERENCING METHOD FOR ITEM PREKNOWLEDGE DETECTION IN REAL-TIME

WEDNESDAY · JULY 15

	STAGE 1	STAGE 2	STAGE 3	STAGE 4
10:00 a.m.-10:35 a.m. US Eastern Time *Continued*	*4.1: Poster Session 1* Continued	*4.2: Poster Session 2* Continued	*4.3: Poster Session 3* Continued	*4.4: Poster Session 4* Continued
	Kentaro Hayashi ON THE RELATIONSHIP BETWEEN FACTORS AND PRINCIPAL COMPONENTS VIA COEFFICIENT ALPHA IN HIGH-DIMENSIONS	**Athul Sudheesh** EXPLORING TEMPORAL FUNCTIONAL DEPENDENCIES BETWEEN LATENT SKILLS IN SUMMATIVE ASSESSMENTS	**Stefany Mena** TESTING CHANGES IN MULTILEVEL MODELS WITH NON-NORMAL DATA USING PERMUTATION	**Shuangshuang Xu** UTILIZING ITEM RESPONSE TIME IN ITEM SELECTION IN VARIABLE-LENGTH CAT
	Chris Strauss EVALUATING THE USE OF FACTOR SCORES IN LATENT MEDIATION MODELS	**Mingying Zheng** COMPUTERIZED ADAPTIVE TESTING ITEM SELECTION FOR BAYESIAN DIAGNOSTIC CLASSIFICATION MODELS	**Hanna Kim** CHALLENGES AND STRATEGIES FOR INVESTIGATING INTERDEPENDENCE WITH DYADIC DATA	**Xiaoguang Yang** A SHADOW TEST APPROACH FOR CONSTRAINED CAT WITH EQUAL MEASUREMENT PRECISION
	Selim Havan MODEL SIZE EFFECT ON SEM MODEL FIT INDICES WITH NON-NORMAL DATA			
	Ellen Fitzsimmons MARGINAL AND CONDITIONAL POSTERIOR PREDICTIVE P-VALUES FOR BAYESIAN SEM	**Jake Cho** A STATISTICAL PROCEDURE FOR Q-MATRIX SPECIFICATION IN DIAGNOSTIC CLASSIFICATION MODELS	**Amanda Ferster** EVALUATION OF AN EDUCATOR PROFESSIONAL DEVELOPMENT SERIES VIA LATENT GROWTH MODELING	**Sooyong Lee** ITEM SELECTION AND TRAIT ESTIMATION METHODS IN CAT WITH ITEM LEAKAGE
	Raul Corrêa Ferraz SHOULD WE COMPUTE OBSERVED POWER IN STRUCTURAL EQUATION MODELING APPLICATIONS?			
	Zachary Goodman MODELING BRAIN SIGNAL VARIABILITY AS NEURAL NETWORK LATENT VARIABLES	**J.Rachael Ahn** DIAGNOSTIC CLASSIFICATION USING A POLYTOMOUS MEASURE OF KOREAN ORGANIZATIONAL COMMITMENT	**Jung Yeon Park** GENERALIZED ADDITIVE MODELING FOR LEARNING TRAJECTORIES IN E-LEARNING ENVIRONMENTS	**Kylie Gorney** A BAYESIAN ANALYSIS OF ITEM FORMAT AND TEST SECURITY

	STAGE 1	STAGE 2	STAGE 3	
10:40 a.m.-11:15 a.m. US Eastern Time	*5.1: Poster Session 5* Chair: Irina Grabovsky	*5.2: Poster Session 6* Chair: Richard Feinberg	*5.3: Poster Session 7* Chair: Leah Feuerstahler	
	Taj Rollins A RASCH ANALYSIS AND CROSS-CULTURAL DIF ANALYSIS OF THE PURPOSE SCALE	**Brooke Houck** USING PAIRWISE PREFERENCE CHOICE MODELING FOR EXAM DEVELOPMENT	**Ki Cole** IRT ANALYSIS OF DIMENSIONAL STRUCTURE AND ITEM WORDING EFFECTS	
	Marcelo Henklain MULTIGROUP CONFIRMATORY FACTOR ANALYSIS WITH THE TEACHER BEHAVIOR CHECKLIST	**Ching Yi Chiang** APPLYING DATA MINING IN THE CHINESE OPTIMISM-PESSIMISM TRAITS SCALE	**Timothy Holcomb** ASSESSING RELIABILITY OF DISCRIMINATION AND DIFFICULTY PARAMETER WEIGHTED SCORING MODELS	
	Sam Cacace INVARIANCE ANALYSIS OF THE CMNI-46: DIFFERENCES IN SUB SCALES BETWEEN MEN AND WOMEN	**Mengting Lee** PSYCHOMETRIC EXAMINATIONS OF AUTHENTIC HAPPINESS INVENTORY AMONG AUSTRALIANS	**Matthew Naveiras** A DYNAMIC TREE-BASED ITEM RESPONSE MODEL	
			Tongtong Zou ITEM-LEVEL MEASUREMENT OF RESPONSE STYLE	
	Tuba Gezer DIFFERENTIAL ITEM ANALYSIS OF A COMMON STATISTICS EXAM	**Biao Zeng** THE INFLUENCE OF WORDING DIRECTION ON UNDERGRADUATE LEARNING BURNOUT SCALE	**Nnamdi Ezike** EVALUATION OF SAS IRT AND MCMC PROCEDURES FOR THE GPCM	
	Ritesh Malaiya SIMULATION STUDIES OF ITEM BIAS ESTIMATION ACCURACY	**Tung Min Liang** THE ESTABLISHMENT OF EVALUATION INDICATORS FOR THE PERFORMANCE ARTS CURRICULUM	**Xiangyi Liao** ITEM COMPLEXITY AND THE MEASUREMENT OF GROWTH IN A VERTICAL SCALING CONTEXT	
	Heather Gunn COMPARISON OF IRT AND CFA PROCEDURES FOR TESTING DIF	**Wenqian Lin** MEASURING ONLINE SOCIAL LONELINESS	**Mingjia Ma** MIRT ITEM PARAMETER RECOVERY UNDER THREE-DIMENSIONAL COMPLEX STRUCTURE	
		Diego Luna Bazaldua A GENERALIZABILITY STUDY OF TEACH, A GLOBAL CLASSROOM OBSERVATION TOOL	**Sayaka Arai** EVALUATION OF CLASSICAL ICC USING NUMERICAL SIMULATION BASED ON IRT	
	Chichen Chen IMPROVING PERFORMANCE OF DIF ASSESSMENT BY USING LATENT CLASS INFORMATION	**Magdalen Beiting-Parrish** CHOOSE ALL THAT APPLY: A PROBLEMATIC ITEM TYPE?	**Trent Combs** ITEM RESPONSE THEORY (IRT) RESPONSE-TIME MODEL: MIXED-EFFECTS SPLINE WITH VARYING KNOTS	

10:40 a.m.-11:15 a.m. US Eastern Time *Continued*	**STAGE 1**			

STAGE 1

5.1: Poster Session 5
Continued

Chunling Niu
A SIMULATION STUDY: COMPARING THE DIF DETECTION CAPACITIES OF THE RASCH TREES MODEL TESTS TO TWO COMMON DIF APPROACHES FOR PARTIAL CREDIT MODELS

Eric Schuler
PARENT-CHILD MEASUREMENT INVARIANCE OF CIGARETTE AND E-CIGARETTE EXPECTANCIES USING DYADIC CONFIRMATORY FACTOR ANALYSIS

Winnie Wing-Yee Tse
MEASUREMENT INVARIANCE FOR ORDERED CATEGORICAL VARIABLES: THE NECESSITY OF STRICT INVARIANCE FOR VALID GROUP COMPARISONS

Sohee Kim
ITEM PARAMETER DRIFT UNDER THE BIFACTOR MODEL

11:20 a.m.-11:55 a.m. US Eastern Time

STAGE 1	**STAGE 2**	**STAGE 3**
6.1: Poster Session 8 *Chair: Satoshi Usami*	*6.2: Poster Session 9* *Chair: Jay Verkuilen*	*6.3: Poster Session 10* *Chair: Sierra Bainter*
Chaochao Jia WHO PERFORMS BETTER? A COMPARISON OF ONLY-CHILD AND NON-ONLY-CHILD IN SCHOOL USING PROPENSITY SCORE	**Ji Li** SELECTING FACTORIAL INVARIANCE MODELS WITH VARIANCE HETEROGENEITY	**Mingya Huang** A BAYESIAN SOLUTION TO NON-CONVERGENCE OF CROSSED RANDOM EFFECTS MODELS
Xiaoxiao Liu EFFECTS OF CLASSROOM TEACHING ON STUDENTS' ACADEMIC PERFORMANCE	**Yifang Zeng** ASSESSING THE EMOTIONAL REGULATION QUESTIONNAIRE IN CHINESE AND AMERICAN ADOLESCENT SAMPLES	**Xinyang Li** PROPENSITY SCORE MATCHING IN CROSS-CLASSIFIED MULTILEVEL MODELS
Qiantong Chen AN EMPIRICAL STUDY OF THE RELATIONSHIP BETWEEN SCHOOL SIZE AND TEACHERS' WORK ENVIRONMENT SATISFACTION IN RURAL CHINA: EVIDENCE FROM PISA 2015 SURVEY	**Yichi Zhang** A BAYESIAN REGION OF MEASUREMENT EQUIVALENCE (ROME) APPROACH FOR ESTABLISHING MEASUREMENT INVARIANCE	**Gulsah Gurkan** ACCOUNTING FOR MEASUREMENT ERROR AND CLUSTERING IN CROSS-CULTURAL ASSESSMENT DATA
Shiyi Zhang EXPLORING FACTORS AND EFFECTS OF SOCIAL MEDIA FATIGUE	**Irina Uglanova** SOURCES OF LOCAL DEPENDENCE BETWEEN INDICATORS WITHIN SCENARIO-BASED ASSESSMENT	**Yan Liu** APPLYING GENERALIZABILITY THEORY IN INTERNATIONAL LARGE-SCALE ASSESSMENTS
Yi Fang Zhai A STUDY ON INFLUENCING FACTORS OF DISADVANTAGED STUDENTS' READING LITERACY	**Hugo Blasdel** DATA RECOVERY AT 0.99 CORRELATION WITH 31% ERROR IN MULTI-MEASURE MDS DECOMPOSITION	**Ronald Flores** IMPROVING LOSS FUNCTIONS WITH INACCURATE PROBABILITIES
Xiaoyue Xiong WHAT ARE CENTRAL FACTORS RELATING TO MIDDLE SCHOOL STUDENTS' SCIENCE ACHIEVEMENTS: EVIDENCE FROM PSYCHOLOGICAL NETWORK ANALYSIS	**Xiaotong Yang** THE NUMBER OF ITERATIONS IN PARALLEL ANALYSIS FOR DETECTING DIMENSIONALITY	**Nayeon Yoo** UTILIZING MACHINE LEARNING TO PREDICT STUDENT PROFICIENCY: PISA PROCESS DATA
		Jianshen Chen EVALUATING ITEM ORDER EFFECT ACROSS VARIOUS TEST-TAKER POPULATIONS
		Wei Xu ABERRANT RESPONSE DETECTION: A JOINT TESTLET MODEL APPROACH

WEDNESDAY · JULY 15

	STAGE 1	STAGE 2	STAGE 3	
11:20 a.m.-11:55 a.m. US Eastern Time *Continued*	*6.1: Poster Session 8* Continued	*6.2: Poster Session 9* Continued	*6.3: Poster Session 10* Continued	
	Song Yajie RELATIONSHIP BETWEEN PARENTAL EMOTIONAL SUPPORT AND STUDENT FAILURE FEARS: THE INTERMEDIARY ROLE OF PSYCHOLOGICAL RESILIENCE—EVIDENCE FROM PISA2018	**Ya Zhang** CLASSIFICATION OF MATH SELF-EFFICACY ON LARGE-SCALE ASSESSMENT	**Simran Johal** COMPARING ESTIMATION METHODS FOR PSYCHOMETRIC NETWORKS WITH ORDINAL DATA	
	Wei Chen THE IMPACT OF TEACHER TRAINING ON STUDENTS' SCIENCE ACHIEVEMENTS	**Wei Wang** PSYCHOMETRIC NETWORK ANALYSIS OF JOB ATTITUDES AND BEHAVIORS	**Dakota Cintron** NONPARAMETRIC ESTIMATION OF LATENT CLASS MODELS WITHIN A HILBERT SPACE	

	STAGE 1
12:00 p.m.-12:55 p.m. US Eastern Time	**Keynote Speaker: Bin Yu** *Veridical Data Science* Chair: Francis Tuerlinckx

THURSDAY · JULY 16

	STAGE 1	STAGE 2
9:00 a.m.-9:25 a.m. US Eastern Time	**Spotlight Talk: Jay Verkuilen** *Fisher-Information Based Local Fit via the Correlation Curve* Chair: Chun Wang	**Spotlight Talk: Zachary Roman** *Bayesian Spatial and Network Auto-Regressive Structural Equation Modeling: A Novel Approach* Chair: Carolyn Anderson
9:30 a.m.-9:55 a.m. US Eastern Time	**Spotlight Talk: Lu Ou** *Knowing it Early in Embodied Learning: Forecasting with Eye-Hand Coordination* Chair: Steven Culpepper	**Spotlight Talk: Andries VanderArk** *New Advances in Mokken Scale Analysis* Chair: Ying Cheng

	STAGE 1	STAGE 2	STAGE 3	STAGE 4
10:00 a.m.-10:35 a.m. US Eastern Time	*7.1: Effects of Measurement Bias on Conclusions Made in Applied Research (Symposium)* Chair: Alexis Georgeson	*7.2: Applications of Machine Learning Methods* Chair: Xueying Tang	*7.3: Longitudinal Data Analysis* Chair: Hsiu-Ting Yu	*7.4: Cognitive Diagnostic Models* Chair: Susu Zhang
	Alexis Georgeson TREATING ORDINAL ITEMS AS CONTINUOUS IN MULTIPLE-GROUP CFA	**Guoguo Zheng** USING LATENT DIRICHLET ALLOCATION TO ANALYZE MATHEMATICS CONSTRUCTED-RESPONSE DATA	**Kong ju Suh** APPLICATION OF A LONGITUDINAL POLYTOMOUS ITEM RESPONSE THEORY MIXTURE MODEL FOR LATENT CLASSES WITH DIFFERENT GROWTH TRAJECTORIES	**Richard Golden** NEW SCALABLE MISSPECIFICATION TESTS FOR G-DINA MODELS WITH MANY PARAMETERS
	Oscar Gonzalez MEASUREMENT BIAS AND CONSISTENCY IN CLASSIFICATION FOR SCREENING MEASURES	**Sunmee Kim** PREDICTION-ORIENTED MODEL SELECTION METRICS FOR EXTENDED REDUNDANCY ANALYSIS		**Ya-Hui Su** INCREASING MEASUREMENT EFFICIENCY IN COGNITIVE DIAGNOSIS MODELS FOR TEST CONSTRUCTION
	Rachel Gross ROBUSTNESS OF LATENT GROWTH CURVE MODELS TO LONGITUDINAL MEASUREMENT NON-INVARIANCE		**Fen Fan** ITEM AND SCORE ESTIMATION FOR A LONGITUDINAL ASSESSMENT	
		Danielle Rodgers MISSING DATA IN MACHINE LEARNING: IMPLEMENTING MULTIPLE IMPUTATION IN CART	**Silvia Bianconcini** COMPARISON BETWEEN DIFFERENT ESTIMATION METHODS OF FACTOR MODELS FOR LONGITUDINAL ORDINAL DATA	**Chenchen Ma** LEARNING LATENT STRUCTURES IN HIERARCHICAL COGNITIVE DIAGNOSIS MODELS
	Peter Halpin WHEN DOES DIF AFFECT GROUP-MEAN COMPARISONS ON THE SCALE SCORE?			
	David Thissen DISCUSSION OF MEASUREMENT BIAS IN APPLIED SETTINGS	**Yanyan Fu** USE LANGUAGE MODELS TO SOLVE SENTENCE-CORRECTION MULTIPLE-CHOICE QUESTIONS	**Yasuo Miyazak** HOW WELL COULD TWO-WAVE MODEL RECOVER THREE-WAVE GROWTH PARAMETERS?	**Manqian Liao** INVESTIGATING THE MEASUREMENT INVARIANCE IN THE MULTIPLE-STRATEGY LONGITUDINAL DIAGNOSTIC MODEL

THURSDAY · JULY 16

	STAGE 1	STAGE 2	STAGE 3	STAGE 4
10:40 a.m.-11:15 a.m. US Eastern Time	*8.1: Missing Data* *Chair: Andries van der Ark* **Egamaria Alacam** NOVEL BAYESIAN MODEL-BASED IMPUTATION METHOD FOR MISSING ITEMS IN QUESTIONNAIRES **Brenna Gomer** SUBTYPES OF THE MISSING NOT AT RANDOM (MNAR) MECHANISM **Feng Ji** DIAGNOSING AND HANDLING COMMON VIOLATIONS OF MISSING AT RANDOM (MAR) **Yawei Shen** USING MATRIX COMPLETION ALGORITHM TO CALIBRATE ITEMS WITH MISSING RESPONSES **Cathy (Xijuan) Zhang** HOW TO COMPUTE SEM FIT INDICES IN THE PRESENCE OF MISSING DATA	*8.2: Process Data* *Chair: Lu Ou* **Yuting Han** ANALYZING SUCCESS ON A CPS TASK USING RESPONSE PROCESSES **Jitong Qi** DIF DETECTION AND REMOVAL BY PROCESS FEATURES AND TRANSFER LEARNING **Kun Su** ANALYZING STUDENTS PHYSICS PROBLEM SOLVING STRATEGIES USING PROCESS DATA **Xueying Tang** A HIDDEN MARKOV MODEL FOR IDENTIFYING PROBLEM-SOLVING STRATEGIES IN PROCESS DATA **Qiwei He** CLUSTERING GENERAL BEHAVIOR PATTERNS ACROSS MULTIPLE TASKS WITH SEQUENCE MINING	*8.3: Classification* *Chair: Stephen France* **Richard Feinberg** PRACTICAL APPROACHES FOR ESTIMATING CLASSIFICATION DECISIONS ON INTERRUPTED HIGH STAKES TESTS **Jessie Hyland** USING LATENT PROFILE ANALYSIS (LPA) TO EXAMINE SECTION SCORE PROFILES ON THE MCAT EXAM **Chang Nie** FACTORS AFFECTING THE CLASSIFICATION ACCURACY IN COGNITIVE DIAGNOSIS BASED ON BP NEURAL NETWORK **Jeffrey Durieux** DETECTING DISEASE SUBTYPES BY MEANS OF CLUSTERWISE INDEPENDENT COMPONENT ANALYSIS	*8.4: Equating* *Chair: Ya Zhang* **Marie Wiberg** KERNEL EQUATING WITH MIXED ITEM FORMAT **Gabriel Wallin** EQUATING NON-EQUIVALENT GROUPS USING PROPENSITY SCORES – MODEL MISSPECIFICATION AND SENSITIVITY ANALYSIS **Jorge González** NEW RESULTS ON THE QUANTILE-BASED CALCULATION OF THE STANDARD ERROR OF EQUATING **Claudia Ovalle** EQUATING METHODS IN R **Chunyan Liu** COMPARISON OF OUTLIER DETECTION STATISTICS IN NEAT DESIGN
11:20 a.m.-11:55 a.m. US Eastern Time	*9.1: Computerized Testing* *Chair: Yasuo Miyazaki* **Shuqin Tao** ON-THE-FLY MULTISTAGE TESTING WITH ADAPTIVE BLUEPRINTS **Giada Spaccapanico Proietti** A PROPOSAL OF AUTOMATED TEST ASSEMBLY VIA STOCHASTIC PROGRAMMING **Kuo-Feng Chang** BEST DESIGN FOR COMPUTERIZED CLASSIFICATION TESTING UTILIZING RESPONSE TIME	*9.2: Structural Equation Modeling* *Chair: Wen Qu* **Hao Wu** A CONFIDENCE INTERVAL OF NONCENTRALITY COMPATIBLE WITH TEST OF A POINT NULL **Han Du** DISTRIBUTIONALLY-WEIGHTED LEAST SQUARES IN STRUCTURAL EQUATION MODELING **Huan Kuang** DETECTING HETEROGENEITY IN AN EXPERIMENTAL STUDY OF A PERSONALIZED LEARNING ALGORITHM WITH STRUCTURAL EQUATION MODEL FORESTS **Eric Wright** A TABU SEARCH ALGORITHM FOR PATH AND STRUCTURAL MODEL SPECIFICATION	*9.3: Mixture Models* *Chair: Eric Schuler* **Francis Tuerlinckx** THE INFLUENCE OF NOISE VARIABLES ON THE SELECTION OF THE NUMBER OF CLUSTERS IN NORMAL MIXTURES USING THE BIC **Seohyun Kim** BAYESIAN GROWTH MIXTURE MODELING USING CONDITIONAL MEDIANS **Rik Lamm** IMPLEMENTING COVARIATES INTO PIECEWISE GROWTH MIXTURE MODEL DETECTION **Jing Lu** A MIXTURE RESPONSE TIME PROCESS MODEL TO DETECT ABERRANT BEHAVIOR AND TO EXPLAIN ITEM NONRESPONSE **Leslie Rutkowski** A SURVIVAL MIXTURE MODEL FOR UNDERSTANDING QUITTING BEHAVIOR	*9.4: Item Response Theory* *Chair: Claudia Ovalle* **Pablo Torres Irribarra** STUDENTS AS INFORMANTS: A MIXED PCM TO COMPARE SCHOOL ENVIRONMENTS **Yi Chen** EXTENDING LATENT REGRESSION IRT WITH RESPONSE TIME **Lucia Guastadisegni** ASSESSING IRT MODEL MISSPECIFICATION THROUGH DIFFERENT LAGRANGE MULTIPLIER TESTS **Ahmed Haddadi** COMPARING DELTA SCORING METHOD AND RASCH MODEL **Edward Ip** PARTIALLY ORDERED RESPONSE IRT: A NEW CLASS OF ITEM RESPONSE MODEL AND APPLICATION TO LONGITUDINAL DATA

	STAGE 1
12:00 p.m.-12:55 p.m. US Eastern Time	**Keynote Speaker: Alina von Davier** *Miss Marple'sSearch for Truth in Big Data: On Design, Causal Inference and Computational Psychometrics* *Chair: David Thissen*

FRIDAY · JULY 17

9:00 a.m.-9:55 a.m. US Eastern Time	**STAGE 1** **Dissertation Prize: Maarten Kampert** *Improved Strategies for Clustering Objects on Subsets of Attributes* *Chair: Jeffrey Douglas*

10:00 a.m.-10:35 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3	STAGE 4
10.1: Psychometric Issues in Multistage Testing (Symposium) *Chair: Peter van Rijn*	*10.2: Response Style Modeling* *Chair: Keith Markus*	*10.3: Modeling Student Cognition* *Chair: Dmitry Abbakumov*	*10.4: Bayesian Applications* *Chair: Han Du*
Peter van Rijn DESIGN ISSUES RELATED TO ESTIMATION AND CONDITIONAL INDEPENDENCE IN MULTISTAGE ADAPTIVE TESTING	**Allison Boykin** RESPONSE STYLE STABILITY ACROSS SCALES AND ITEM FORMATS	**Maxwell Hong** A JOINT MODELING FRAMEWORK FOR ITEM RESPONSE AND TOPIC MODELS	**Yu-Wei Chang** BAYESIAN ESTIMATION FOR AN ITEM RESPONSE THEORY TREE MODEL
Hyo Jeong Shin INCREASING MEASUREMENT EFFICIENCY AND ACCURACY OF PISA THROUGH A MULTISTAGE ADAPTIVE TESTING	**Francisca Calderon** ACCOUNTING FOR RESPONSE STYLE IN SCORING OF NON-COGNITIVE LATENT TRAITS	**Hye-Jeong Choi** PROBABILISTIC TOPIC MODELING FOR IDENTIFYING STUDENTS' MISCONCEPTIONS OR ALTERNATIVE CONCEPTS IN MATHEMATICS	**Seock-Ho Kim** PRIORS IN BAYESIAN ESTIMATION FOR THE TWO- AND THREE-PARAMETER LOGISTIC MODELS
Timo Bechger BAYESIAN INFERENCE IN LARGE-SCALE MULTISTAGE TESTING	**Weicong Lyu** A PSYCHOMETRIC MODEL FOR ANCHORING ON SELF-REPORTING RATING SCALE INSTRUMENTS	**Chia-Wen Chen** COMBINING ITEM RESPONSES AND CERTAINTY RESPONSES TO PREDICT MISCONCEPTIONS	**Wenya Chen** A BAYESIAN SOLUTION TO BIFACTOR IRT MODELING OF RATING DATA
Hyung Jin Kim EVALUATING APPROACHES TO HANDLING LOCAL ITEM DEPENDENCY IN TESTLET-BASED MST	**Joshua Starr** RELATIVE PERFORMANCE OF LIMITED-INFORMATION TEST STATISTICS WITH RESPONSE STYLE MODELS	**Jordan Wheeler** A SIMULATION GUIDE FOR TOPIC MODELS OF CONSTRUCTED-RESPONSE ITEMS	**Ken Fujimoto** THE GENERAL BAYESIAN THREE-TIER ITEM RESPONSE THEORY MODEL
	Aaron Myers A NON-COMPENSATORY AND COMPENSATORY MIRT MODEL FOR MODELING RESPONSE STYLES		**Lijin Zhang** BLCFA: AN R PACKAGE FOR BAYESIAN MODEL MODIFICATION IN CONFIRMATORY FACTOR ANALYSIS

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

STAGE 1	STAGE 2	STAGE 3	
11.1: Causal Inference *Chair: Gabriel Wallin*	*11.2: Online Learning* *Chair: Sacha Epskamp*	*11.3: International Assessment* *Chair: Leslie Rutkowski*	
Xiao Liu CAUSAL INFERENCE WITH PARTIALLY NESTED DESIGNS: A PROPENSITY-SCORE-BASED APPROACH	**Yuning Xu** USING SIMULATIONS TO SUPPORT PRODUCT DEVELOPMENT FOR ONLINE LEARNING ENVIRONMENTS	**Justin Wild** CROSS-CULTURAL COMPARABILITY OF DIVERSITY CONSTRUCTS IN INTERNATIONAL LARGE-SCALE ASSESSMENTS	
Jee-Seon Kim CLASSIFICATION AND ESTIMATION OF HETEROGENEOUS TREATMENT EFFECTS	**Hulya Duygu Yigit** EXTENDING EXPLORATORY DIAGNOSTIC CLASSIFICATION MODELS: INFERRING THE EFFECT OF COVARIATES	**Laura Raffaella Zieger** CONDITIONING: HOW BACKGROUND VARIABLES CAN INFLUENCE PISA SCORES	
Ge Jiang PROPENSITY SCORE ANALYSIS WITH LATENT VARIABLES: ALTERNATIVES TO LOGISTIC REGRESSION	**Suhwa Han** SEQUENTIAL MONITORING OF EXAMINEE ABERRATION BASED ON RESPONSE TIMES	**Pan Tang** FACTORS AFFECTING COLLABORATIVE PROBLEM-SOLVING: AN EMPIRICAL STUDY BASED ON PISA	
Kubra Atalay Kabasakal CONSTRUCTION AND USE OF A CAUSAL MODEL TO IDENTIFY THE POSSIBLE CAUSES OF DIF	**Dmitry Abbakumov** COMBINING EXPLANATORY IRT AND PSYCHOLOGICAL NETWORKS FOR UNDERSTANDING AND MODELING ONLINE LEARNERS' DIFFICULTIES	**Edwin Cuellar** WHAT CAN WE LEARN FROM DIF ANALYSIS IN LARGE-SCALE ASSESSMENTS?	
	Maxim Skryabin PARAMETERS ESTIMATION FOR DYNAMIC IRT MODELS WITH FEEDBACK	**Burhanettin Ozdemir** COMPARING THE PERFORMANCE OF DIFFERENT GROUPS ACROSS TESTING METHODS: MULTI-GROUP MIMIC APPROACH	

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11:20 a.m.-11:55 a.m. US Eastern Time

STAGE 1	STAGE 2	STAGE 3
12.1: Factor Analysis Chair: Silvia Bianconcini	*12.2: Response Times* Chair: Hyeon-Ah Kang	*12.3: Differential Item Functioning* Chair: Eduardo Alarcón-Bustamante
Lauren Trichtinger TESTING P-TECHNIQUE FACTOR ANALYSIS WITH NON-NORMAL TIME SERIES	**Eric Loken** THE COVARIANCE STRUCTURE OF RESPONSE TIME AND ACCURACY DURING A TEST	**Marco Siyuan Chen** BAYESIAN REGULARIZATION METHODS IN MEASUREMENT INVARIANCE EVALUATION
Haoran Zhang A NOTE ON EXPLORATORY ITEM FACTOR ANALYSIS BY SINGULAR VALUE DECOMPOSITION	**Jinxin Guo** MODELLING NOT-REACHED ITEMS WITH RESPONSE TIME CENSORING APPROACH	**Ruoyi Zhu** REGULARIZATION METHODS FOR DIF DETECTION IN MULTIDIMENSIONAL IRT MODELS
Yiu-Fai Yung AN EFFICIENT SCHEDULING ALGORITHM FOR PARALLEL PLANAR ROTATIONS OF FACTORS	**Irina Grabovsky** MULTIPLE GROUP HIERARCHICAL SPEED ACCURACY REVISIT MODEL	**Guanyu Chen** EXPLANATORY ITEM RESPONSE THEORY: AN EXPLANATORY APPROACH FOR INVESTIGATING DIFFERENTIAL ITEM FUNCTIONING IN PISA TESTS DUE TO THE TEST MODE EFFECT
Wen Qu EVALUATING THE EFFECT OF MULTIVARIATE NON-NORMALITY ON CONFIRMATORY FACTOR ANALYSIS	**Susan Embretson** RESPONSE TIME RELATIONSHIPS WITHIN EXAMINEES: IMPLICATIONS FOR ITEM RESPONSE TIME MODELS	
Patrick Manapat UNDERSTANDING SOURCES OF VARIABILITY IN FACTOR ANALYTIC RESULTS	**Denis Federiakin** RASCH MODEL WITH TIME PARAMETERS FOR TESTS WITH SPEEDINESS-ITEMS AND ACHIEVEMENT-ITEMS	**Lanrong Li** USING META-ANALYSIS TO ASSESS DIFFERENTIAL BUNDLE FUNCTIONING
Yang Liu SEMI-PARAMETRIC FACTOR ANALYSIS FOR CONTINUOUS DATA		

12:00 p.m.-12:55 p.m. US Eastern Time

STAGE 1

Meeting of the Members
Chair: Carolyn Anderson