HONG JIAO
CURRICULUM VITAE

Notarization. I have read the following and certify that this curriculum vita is a current and accurate statement of my professional record.

Signature  Date: January 9, 2026

1. PERSONAL INFORMATION

A. CONTACT INFORMATION

Quantitative Methodology: Measurement and Statistics
Department of Human Development and Quantitative Methodology
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B. CURRENT POSITION

Academic Appointments

8/2020 –Present	**Professor** Quantitative Methodology: Measurement & Statistics (QMMS), Department of Human Development and Quantitative Methodology, University of Maryland, College Park, MD
12/2024 –Present	**AIM Affiliate** Artificial Intelligence Interdisciplinary Institute at Maryland (AIM), University of Maryland, College Park, MD
8/2015 –Present	**Director & Principal Investigator** Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD

Other Appointments

2025 – Present	**Technical Advisory Committee Member** The Smarter Balanced Technical Advisory Committee.
2015 – Present	**Technical Advisory Committee Member** Maryland State Assessment Programs, Maryland State Department of Education.
2024 – Present	**Research Advisory Committee Member** The Research Governance Committee for Duolingo
2024 – Present	**Technical Advisory Committee Member** The Technical Advisory Committee for American Board of Internal Medicine.
2023 – Present	**TAC Member** Classic Learning Test
2023 – Present	**Psychometric Oversight Committee/TAC Member** The Psychometric Oversight Committee aka Technical Advisory Committee for AICPA.

C. PREVIOUS PROFESSIONAL EMPLOYMENT

2022 – 2023	**Co-Chair** The Organizing Committee for the 2023 International Meeting of Psychometric Society.
2019 – 2021	**Chair** The local Organizing Committee for the 2020, 2021 International Meeting of Psychometric Society.
8/2013 –8/2020	**Associate Professor** Measurement, Statistics, and Evaluation (EDMS), Department of Human Development and Quantitative Methodology, University of Maryland, College Park, MD
8/2012 –8/2015	**Co-Director** Maryland Assessment Research Center (MARC, previously MARCES), University of Maryland, College Park, MD
8/2007 –8/2013	**Assistant Professor** Measurement, Statistics, and Evaluation (EDMS), Department of Human Development and Quantitative Methodology, University of Maryland, College Park, MD
2015 – 2020	**Chair** The Technical Advisory Committee for the Maryland State Assessment Programs, Maryland State Department of Education.
2018 – 2020	**Chair Elected** American Educational Research Association, Rasch Measurement Special Interest Group.
6/2003 –8/ 2007	**Psychometrician II and I** Psychometric and Research Service, Harcourt Assessment, Inc. San Antonio, TX
6/2002 –7/ 2002	**Lenke Psychometric Fellow** Psychometric and Research Service, Harcourt Educational Measurement, Inc. San Antonio, TX
2/1992 – 7/1998	**Lecturer of English**

Department of Foreign Languages, Shanghai Jiao Tong University, Shanghai, China

D. EDUCATION

Ph.D. in Measurement, Statistics, and Evaluation
Florida State University, Tallahassee, FL
M.A. in Linguistics and Applied Linguistics
Shanghai Jiao Tong University, Shanghai, China (Graduated with honor)
B.S. in English for Science and Technology
Shanghai Jiao Tong University, Shanghai, China

2. RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITIES

Note: * indicates student coauthors.

A. BOOKS

Books Edited (Published)

1. Jiao, H., & Lissitz, R. W. (2024). *Machine learning, natural language processing and psychometrics*. Charlotte, NC: Information Age Publisher.
2. Jiao, H., He, Q., & Veldkamp, B. P. (2021). *Process data in educational and psychological measurement*. Frontiers in Psychology.
3. Jiao, H., & Lissitz, R. W. (2021). *Enhancing effective instruction and learning using assessment data*. Charlotte, NC: Information Age Publisher.
4. Jiao, H., & Lissitz, R. W. (2020). *Innovative psychometric modeling and methods*. Charlotte, NC: Information Age Publisher.
5. Jiao, H., & Lissitz, R. W. (2020). *Applications of artificial intelligence to assessment*. Charlotte, NC: Information Age Publisher.
6. Jiao, H., Lissitz, R. W., & Van Wie*, A. (2018, Eds.). *Data analytics and psychometrics: Informing assessment practices*. Charlotte, NC: Information Age Publisher.
7. Jiao, H., & Lissitz, R. W. (2017, Eds.). *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective*. Charlotte, NC: Information Age Publisher.
8. Jiao, H., & Lissitz, R. W. (2017, Eds.). *Test fairness in the new generation of large-scale assessment*. Charlotte, NC: Information Age Publisher.
9. Jiao, H., & Lissitz, R. W. (2015, Eds.). *The next generation of testing: Common core standards, Smarter-Balanced, PARCC, and the nationwide testing movement*. Charlotte, NC: Information Age Publisher.
10. Lissitz, R. W., & Jiao, H. (2014, Eds.). *Value added modeling and growth modeling with particular application to teacher and school effectiveness*. Charlotte, NC: Information Age Publisher.
11. Lissitz, R. W., & Jiao, H. (2012, Eds.). *Computers and their impact on state assessment: Recent history and predictions for the future*. Charlotte, NC: Information Age Publisher.

Chapters in Books (Published)

1. Jiao, H., Choi, H., Fang, L., & Zhai, X. (2026, in press). Data augmentation for computational psychometrics. In D. Yan & A. von Davier (Eds.), *AI applications in educational learning and assessment*. NC: Taylor & Francis/Routledge.
2. Jiao, H., Xiong, J., & Lnu, C. (2026, in press). Machine Learning-based cheating detection in large-scale assessments. In X. Xiong & M. Shermis (Eds.), *The Role of AI in Assessment: Revolutionizing Education*. Taylor & Francis/Routledge.
3. Jiao, H., & Xiong, J. (2026, in progress). The evolving landscape of modern psychometrics: computational psychometrics in educational assessment. In E. Tucker & M. E. Oliveri (Eds.), *Modeling What Matters: The Research and Legacy of Robert J. Mislevy*. NC: Taylor & Francis/Routledge.
4. Liao, M. & Jiao, H. (2024). Module assembly and routing of cognitive diagnostic multistage adaptive test. In D. Yan (Eds.), CD-MST. NC: Information Age Publishing.
5. Jiao, H., Xu, S., & Liao, M. (2024). Exploration of the stacking learning algorithm for automated scoring of short-answer questions in reading. In M. D. Shermis & J. Wilson (Eds.), *The Routledge International Handbook of Automated Essay Evaluation* (pp. 40-54). Routledge, Inc.
6. Qiao, X., Liao, M., Jiao, H. (2021). Nonlinear Latent Effects in Diagnostic Classification Modeling Incorporating Response Times. In Wiberg, M., Molenaar, D., González, J., Böckenholt, U., Kim, JS. (eds) *Quantitative Psychology*. Springer Proceedings in Mathematics & Statistics, vol 353. Springer, Cham. https://doi.org/10.1007/978-3-030-74772-5_6
7. He, Q., Liao, D., Ling, H. K., & Jiao, H. (2021). Evaluating consistency of behavioral patterns across multiple tasks using process data: A case study in PIAAC. In L. Khorramdel, M. von Davier, K. Yamamoto. (Eds.) *Innovative Computer-based International Large-Scale Assessments – Foundations, Methodologies and Quality Assurance Procedures.*
8. Jiao, H., Liao*, D., & Zhan*, P. (2019). Utilizing process data for cognitive diagnosis. In M. von Davier & Y. Lee (Eds.), *Handbook of Diagnostic Classification Models*.
9. He, Q., Liao*, D., & Jiao, H. (2019). Clustering behavioral patterns using process data in PIAAC problem-solving items. In B. P. Veldkamp & C. Sluijter (Eds.). *Theoretical and Practical Advances in Computer-Based Educational Measurement*. Springer. Methodology of Educational Measurement and Assessment (book series), Springer. https://doi.org/10.1007/978-3-030-18480-3_10.
10. Jiao, H., & Li*, C. (2018). Progress in International Reading Literacy Study (PIRLS) data. In *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. Thousand Oaks, CA: Sage.
11. Jiao, H., & Liao*, D. (2018). Testlet response theory. In *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. Thousand Oaks, CA: Sage.
12. Jiao, H., Lissitz, R. W., & Zhan*, P. (2017). Calibrating innovative items embedded in multiple contexts. In H. Jiao & R.W. Lissitz (Eds.), *Technology-enhanced innovative assessment: Development, modeling, scoring from an interdisciplinary perspective*. Charlotte, NC: Information Age Publishing.
13. Jiao, H., Kamata, A., & Xie, C. (2015). A multilevel cross-classified testlet model for complex item and person clustering in item response modeling. In J. Harring, L. Stapleton, & S. Beretvas (Eds.), *Advances in multilevel modeling for educational research: Addressing practical issues found in real-world applications* (pp.139-161). Charlotte, NC: Information Age Publishing.
14. Luo, Y., Jiao, H., & Lissitz, R. W. (2015). An empirical study of the impact of the choice of persistence model in value-added modeling upon teacher effect estimates. In L. A. van der Ark, D. Bolt, W.-C. Wang, J. A. Douglas & S.-M. Chow (Eds.), *Quantitative psychology*

research (pp.133-143). Springer, Switzerland.

15. Jiao, H., & Lissitz, R. W. (2014). Direct modeling of student growth with multilevel and mixture extensions. In R. W. Lissitz & H. Jiao (Eds.), *Value added modeling and growth modeling with particular application to teacher and school effectiveness* (pp.293-306). Charlotte, NC: Information Age Publisher.
16. Jiao, H., & Chen*, Y.-F. (2014). Differential item and testlet functioning. In A. Kunnan (Ed.), *The Companion to Language Assessments* (pp.1282-1300). John Wiley & Sons, Inc.
17. Chen*, Y.-F., & Jiao, H. (2014). Does model misspecification lead to spurious latent classes? An evaluation of model comparison indices. In R. E. Millsap et al. (Eds.), *New development in quantitative psychology, Springer Proceedings in Mathematics & Statistics*, 66, DOI 10.1007/978-1-4614-9348-8_22, Springer Science +Business Media, New York.
18. Jiao, H., & Lissitz, R. W. (2012). Computer-based testing in K-12 state assessments: An Introduction. In R. W. Lissitz & H. Jiao (Ed.), *Computers and their impact on state assessment: Recent history and predictions for the future* (pp. 1-21). Charlotte, NC: Information Age Publisher.
19. Templin, J. & Jiao, H. (2011). Applying model-based approaches to identify performance categories. In G. Cizek (Ed.), *Setting performance standards: foundations, methods, and innovations* (pp. 379-397). New York, NY: Routlege.
20. Jiao, H., Wang, S., Kamata, A. (2007). Modeling local item dependence with the hierarchical generalized linear model. In E. V. Smith & R. M. Smith (Eds.), *Rasch Measurement: Advanced and Specialized Applications*. JAM press.
21. Jiao, H. (2004). Evaluating the Dimensionality of the Michigan English Language Assessment Battery. *Spaan Fellow Working Papers in Second or Foreign Language Assessment: Volume 2* (pp. 27-52). University of Michigan, Ann Arbor, MI.

B. ARTICLES IN REFEREED JOURNALS

Articles in Refereed Journals (Published)

1. Jiao, H., Song*, D., & Lee, W. (under 2nd round review). Investigating AI rater effects of large language models: GPT, Claude, Gemini, and DeepSeek. *Educational Measurement: Issues and Practice*.
2. Song*, D., Lee, W., & Jiao, H. (under 2nd round review). Using generalizability theory to understand AI rater effects. *International Journal of Testing*.
3. Hua, H., Jiao, H., & Wang, X. (under review). *Exploration of summarization by generative language models to enhance automated scoring of long essays*.
4. Jiao, H., Choi, H., & Hua, H. (under review). *Exploring the utilities of the rationales from LLMs to enhance automated essay scoring*.
5. Peters*, S., Zhang*, N., Jiao, H., Li*, M., Zhou, T., Lissitz, R., Fu*, Y., & Xu*, Q. (under review). *Text-based approaches to item difficulty modeling in high-stakes assessments: A systematic review*.
6. Hua*, H., Jiao, H., & Song*, D. (under review). *Scoring rationale comparison between large language models and human raters*.
7. Xu, Q., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Fu*, Y., Peters*, S., & Lissitz, R. (2025, under revision). *Automated math item alignment to content standards using language models*.
8. Fu*, Y., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Xu, Q., Peters*, S., & Lissitz, R. (2025, under revision). *Language model-enhanced automated item alignment to reading & writing content standards*.

9. Li*, M., Jiao, H., Zhou, T., Zhang*, N., Peters*, S., & Lissitz, R. W. (2025). Item Difficulty Modeling Using Fine-tuned Small and Large Language Models. *Educational and Psychological Measurement*, *85*(6), 1065-1090. https://doi.org/10.1177/00131644251344973 (Original work published 2025)
10. Bulut, O., Beiting-Parrish, M., Casabianca, J. M., Slater, S. C., Jiao, H., Song, D., Ormerod, C., Fabiyi, D. G., Ivan, R., Walsh, C., Rios, O., Wilson, J., Yildirim-Erbasli, S. N., Wongvorachan, T., Liu, J. X., Tan, B., & Morilova, P. (2024). The rise of artificial intelligence in educational measurement: Opportunities and ethical challenges. *Chinese/English Journal of Educational Measurement and Evaluation*, *5*(3), Article 3. https://doi.org/10.59863/MIQL7785
11. Ren*, J., & Jiao, H. (2024). Bayesian joint modeling of item responses and response time in a statistical learning task. *Journal of Cognitive Science*, 25(2), 237-274.
12. Liao, M., Jiao, H., & He, Q. (2024). Explanatory cognitive diagnostic models incorporating item features. *Journal of Intelligence.*
13. Fu, Y., Zhan, P., & Jiao, H. (2023). Joint modeling of action sequences and action times in problem-solving tasks. *Behavioral Research Methods*. DOI: 10.3758/s13428-023-02178-2.
14. Zhu, H., Jiao, H., Gao, W., & Meng, X (2023). Bayesian change point analysis approach to detecting aberrant test-taking behavior using response times. *Journal of Educational and Behavioral Statistics*. 48, 490-520. https://doi.org/10.3102/10769986231151961
15. Jiao, H., He, Q., & Yao, L. (2023). Machine learning and deep learning in assessment. *Psychological Testing and Assessment Modeling.* 65 (1), 179-190.
16. Yao, L. & Jiao, H. (2023) Comparing performance of feature extraction methods and machine learning models in essay scoring, *Chinese/English Journal of Educational Measurement and Evaluation,* Vol. 4: Iss. 3, Article 1. DOI: https://doi.org/10.59863/DQIZ8440 Available at: https://www.ce-jeme.org/journal/vol4/iss3/1.
17. Zhou*, T. & Jiao, H. (2022). Data augmentation in machine learning for cheating detection: An illustration with the blending learning algorithm. *Psychological Testing and Assessment Modeling.* 64(4), 425-444.
18. Qiao, X., Jiao, H., & He, Q. (2022). A multiple group joint modeling of item responses, response times, and action counts with the Conway-Maxwell-Poisson distribution. *Journal of Educational Measurement*.
19. Zhou*, T. & Jiao, H. (2022). Exploration of the stacking ensemble machine learning algorithm for cheating detection in large-scale assessment. *Educational and Psychological Measurement*. https://doi.org/10.1177/00131644221117193
20. Liao*, M. & Jiao, H. (2022). Modeling multiple problem-solving strategies and strategy shift in cognitive diagnosis for growth. *British Journal of Mathematical and Statistical Psychology.* https://doi.org/10.1111/bmsp.12280
21. Jiao, H. (2022). Comparison of different approaches to dealing with guessing in Rasch modeling. *Psychological Testing and Assessment Modeling.* 64(1), 65-86.
22. Qiao*, X. & Jiao, H. (2022). Explanatory cognitive diagnostic modeling incorporating response times. *Journal of Educational Measurement*. DOI: 10.1111/jedm.12306.
23. Jiao, H, & Liao, M. (2021). Digital ITEMS: Testlet response theory. *Educational Measurement: Issues and Practices*.
24. Jiao, H., He, Q., & Veldkamp, B. P. (2021). *Editorial: Process data in educational and psychological assessment*. Frontiers in Psychology.
25. Zhan, P., Li, F., & Jiao, H. (2021). *Editorial: Cognitive Diagnostic Assessment for Learning.* Frontiers in Psychology.

26. Wu, F., Yang, X., & Jiao, H. (2021). 基于原则的评估设计——一种测验开发的新取向 [Principled Approaches to Test Development and Design]. *Exploring Education Development*, 41(10), 30-40.
27. Zhan, P., Jiao, H, Wang, W. & Man, K. (2021). Variable speed across dimensions of ability in the joint model of responses and response times. *Frontiers in Psychology*.
28. Liao, M., Patton, J., Yan, R., & Jiao, H. (2021). Mining process data to detect aberrant test takers. *Measurement: Interdisciplinary Research and Perspectives*. 19(2), 93-105. https://doi.org/10.1080/15366367.2020.1827203
29. Jiao, H. & Lissitz, R. (2020). What hath the Coronavirus brought to Assessment? Unprecedented Challenges in Educational Assessment in 2020 and Years to Come. *Educational Measurement: Issue and Practices*. https://doi.org/10.1111/emip.12363.
30. Zhan, P., Jiao, H., & Man, K. (2020). The multidimensional log-normal response time model: An exploration of the multidimensionality of latent processing speed. *Acta Psychologica Sinica*.
31. Liao*, D., He, Q., & Jiao, H. (2019). Mapping background variables with sequential patterns in problem solving environments: An investigation on US adults' employment status in PIAAC. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2019.00646.
32. Man*, K., Harring, J., Jiao, H., & Zhan*, P. (2019). Conditional joint modeling of compensatory multidimensional item responses and response times. *Applied Psychological Measurement.* Advanced Online Publication. URL https://doi.org/10.1177/0146621618824853.
33. Zhan*, P., Jiao, H., Liao*, D. & Li, F (2019). A longitudinal higher-order diagnostic classification model. *Journal of Educational and Behavioral Statistics*. Advanced Online Publication. URL https://doi.org/10.3102/1076998619827593.
34. Zhan*, P., Ma, W., Jiao, H., & Ding, S. (2019). A sequential higher-order latent structural model for hierarchical attributes in cognitive diagnostic assessments. *Applied Psychological Measurement.* Advanced Online Publication. URL https://doi.org/10.1177/0146621619832935.
35. Zhan*, P., Jiao, H., Man, K, & Wang, L. (2019). Using JAGS for Bayesian cognitive diagnosis modeling: A tutorial. *Journal of Educational and Behavioral Statistics.* Advanced Online Publication. URL https://doi.org/10.3102/1076998619826040
36. Zhan*, P., Wang, W.-C., Jiao, H., & Bian, Y. (2018). The probabilistic-inputs, noisy conjunctive models for cognitive diagnosis. *Frontiers in Psychology*. URL https://doi.org/10.3389/fpsyg.2018.00997.
37. Zhan*, P., Jiao, H., Liao*, M., & Bian, Y. (2018). Bayesian DINA modeling incorporating within-item characteristics dependency. *Applied Psychological Measurement*. *43*, 143–158. https://doi.org/10.1177/0146621618781594
38. Qiao*, X., & Jiao, H. (2018). Data mining techniques in analyzing process data: A didactic. *Frontiers in Psychology*. 9:2231. doi: 10.3389/fpsyg.2018.02231.
39. Zhan*, P. Jiao, H., & Liao*, D. (2017). Cognitive diagnosis modeling incorporating item response times. *British Journal of Mathematical and Statistical Psychology*. doi: 10.1111/bmsp.12114
40. Luo, Y., & Jiao, H. (2017). Using the Stan program for Bayesian item response theory. *Educational and Psychological Measurement*. DOI: 10.1177/0013164417693666
41. Li*, T., Xie*, C., & Jiao, H. (2016). Assessing fit of alternative unidimensional polytomous item response models using posterior predictive model checking. *Psychological Methods*.
42. Li*, T., Jiao, H., & Macready, G. (2015). Different approaches to covariate inclusion in the mixture Rasch model. *Educational and Psychological Measurement.* DOI: 10.1177/0013164415610380
43. Jiao, H., & Zhang*, Y. (2015). Polytomous multilevel testlet models for testlet-based

assessments with complex sampling designs. *British Journal of Mathematical and Statistical Psychology*, *1*, 65-83. Online first，DOI:10.1111/bmsp.12035.

44. Wolfe, E., Song, T. W., & Jiao, H. (2015). Features of difficult-to-score essays. *Assessing Writing.27*, 1-10.
45. Wolfe, E. W., Jiao, H., & Song, T. (2015). A family of rater accuracy models. *Journal of Applied Measuremen*t. *16*
46. Chen*, Y.-F. & Jiao, H. (2014). Exploring the utility of background and cognitive variables in explaining latent differential item functioning: An example of the PISA 2009 reading assessment. *Educational Assessment.19*, 77-96.
47. Jiao, H., Wang, S., & He, W. (2013). Estimation methods for one-parameter testlet models. *Journal of Educational Measurement*, *50*, 186-203.
48. Wang, S., Jiao, H., & Zhang, L. (2013). Validation of longitudinal achievement constructs of vertically scaled computerized adaptive tests: A multiple-indicator, latent-growth modeling approach. *International Journal of Quantitative Research in Education*, *1*, 383-407.
49. Tao, J., Xu, B., Shi, N., & Jiao, H. (2013). Refining the two-parameter testlet response model by introducing testlet discrimination parameters. *Japanese Psychological Research*. *55*, 284-291.
50. Wang, S., McCall, M., Jiao, H., & Harris, G. (2013). Construct validity and measurement invariance of computerized adaptive testing: application to Measures of Academic Progress (MAP) using confirmatory factor analysis. *Journal of Educational and Developmental Psychology*, *3*, 88-100.
51. Li*, Y., Jiao, H., & Lissitz, R.W. (2012). Applying multidimensional IRT models in validating test dimensionality: An example of K-12 large-scale science assessment. *Journal of Applied Testing Technology*, vol. 13, n2.
52. Jiao, H., Macready, G., Liu*, J., & Cho*, Y. (2012). A mixture Rasch model based computerized adaptive test for latent class identification. *Applied Psychological Measurement*, *36*, 469-493.
53. Jiao, H., Kamata, A., Wang, S., & Jin, Y. (2012). A multilevel testlet model for dual local dependence. *Journal of Educational Measurement, 49*, 82-100.
54. Jiao, H., Liu*, J., Haynie, K., Woo, A., & Gorham, J. (2012). Comparison between dichotomous and polytomous scoring of innovative items in a large-scale computerized adaptive test. *Educational and Psychological Measurement*, *72*, 493 - 509.
55. Jiao, H., Lissitz, B., Macready, G., Wang, S., & Liang*, S. (2011). Exploring levels of performance using the Mixture Rasch Model for standard setting. *Psychological Testing and Assessment Modeling*, *53*, 499-522.
56. Jiao, H., & Wang, S. (2010). A multifaceted approach to investigating the equivalence between computer-based and paper-and-pencil assessments: An example of Reading Diagnostics. *International Journal of Learning Technology*, *5*, 264-288.
57. Wang, S., & Jiao, H. (2009). Construct equivalence across grades in a vertical scale for a K-12 large-scale reading assessment. *Educational and Psychological Measurement*, *69*, 760-777.
58. Wang, S., Jiao, H., Young, M. J., Brooks, T., & Olson, J. (2008). Comparability of computer-based and paper-and-pencil testing in K-12 reading assessments: A meta-analysis of testing mode effects. *Educational and Psychological Measurement*, *68*(1), 5-24.
59. Wang, S., Jiao, H., Young, M. J., Brooks, T., & Olson, J. (2007). A meta-analysis of testing mode effects in Grade K-12 Mathematics Tests. *Educational and Psychological Measurement*, *67*(2), 219-238.
60. Jiao, H., Wang, S., & Kamata, A. (2005). Modeling local item dependence with the hierarchical generalized linear model. *Journal of Applied Measurement*, *6*(3), 311-321.

61. Wang, S., & Jiao, H. (2005). Development and application of the Stanford achievement test, diagnostic test, and English proficiency test. *Examinations Research*, *1*(1), 118-128. (in Chinese with English abstract).

Articles in Open Sources Publication

1. Li, M., Chen, H., Xiao, Y., Chen, J., Jiao, H., & Zhou, T. (2025). Can LLMs estimate student struggles? Human-AI difficulty alignment with proficiency simulation for item difficulty prediction (arXiv preprint arXiv:2512.18880). https://arxiv.org/abs/2512.18880
2. Hua, H., Jiao, H., & Wang, X. (2025, November 19). *Exploration of summarization by generative language models for automated scoring of long essays*. arXiv. https://doi.org/10.48550/arXiv.2510.22830
3. Jiao, H., Choi, H., & Hua, H. (2025, October 31). *Exploring the utilities of the rationales from large language models to enhance automated essay scoring*. arXiv. https://doi.org/10.48550/arXiv.2510.27131
4. Xu, Q., Jiao, H., Zhou, T., Li, M., Zhang, N., Peters, S., & Fu, Y. (2025, October 11). *Automated alignment of math items to content standards in large-scale assessments using language models*. arXiv. https://doi.org/10.48550/arXiv.2510.05129
5. Fu, Y., Jiao, H., Zhou, T., Zhang, N., Li, M., Xu, Q., Peters, S., & Lissitz, R. W. (2025, October 11). *Text-based approaches to item alignment to content standards in large-scale reading & writing tests*. arXiv. https://doi.org/10.48550/arXiv.2509.26431
6. Peters, S., Zhang, N., Jiao, H., Li, M., Zhou, T., & Lissitz, R. (2025, September 27). *Text-based approaches to item difficulty modeling in large-scale assessments: A systematic review* [Manuscript under review]. arXiv. https://doi.org/10.48550/arXiv.2509.23486
7. Hua, H., Jiao, H., & Song, D. (2025, September 27). *Comparison of scoring rationales between large language models and human raters*. arXiv. https://doi.org/10.48550/arXiv.2509.23412
8. Li, M., Zhang, N., Fan, C., Jiao, H., Fu, Y., Peters, S., Xu, Q., Lissitz, R., & Zhou, T. (2025, September 18). *Understanding the thinking process of reasoning models: A perspective from Schoenfeld's episode theory* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2509.14662
9. Jiao, H., Song, D., & Lee, W.-C. (2025, May 28). *Comparing human and AI rater effects using the many-facet Rasch model* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2505.18486
10. Song, D., Lee, W.-C., & Jiao, H. (2025, July 29). *Exploring LLM autoscoring reliability in large-scale writing assessments using generalizability theory* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2507.19980
11. Jiao, H., Yadav, C., & Li, G. (2023, May). *Integrating psychometric analysis and machine learning to augment data for cheating detection in large-scale assessment*. *PsyArXiv*. https://doi.org/10.31234/osf.io/fjz2c
12. Bulut, O., Beiting-Parrish, M., Casabianca, J. M., Slater, S. C., Jiao, H., Song, D., ... & Morilova, P. (2024). *The Rise of Artificial Intelligence in Educational Measurement: Opportunities and Ethical Challenges*. *arXiv preprint arXiv:2406.18900*.
13. Fu, Y., Zhan, P., & Jiao, H. (2022). *Joint modeling of action sequences and action times in Problem-solving Tasks*. Retrieved from psyarxiv.com/e3nbc

C. MONOGRAPHS, REPORTS, AND EXTENSION PUBLICATIONS

1. Zhang*, N., Li*, M., Fan*, C., Jiao, H., Fu*, Y., Peters*, S., Xu, Q., Lissitz, R., & Zhou, T. (2025). Understanding the rationales of LLM in predicting item difficulty. (MARC Research Report). College Park, MD: University of Maryland.

2. Zhang*, N., Peters*, S., Jiao, H., Lissitz, R. W., Fu*, Y., & Xu, Q. (2025). *Automated item content alignment: a systematic review.* (MARC Research Report). College Park, MD: University of Maryland.
3. Peters*, S., Zhang*, N., Jiao, H., Li*, M., Zhou, T., Lissitz, R., Fu*, Y., & Xu*, Q. (2025). Text-based approaches to item difficulty modeling in large-scale assessments: A systematic review. (MARC Research Report). College Park, MD: University of Maryland.
4. Xu, Q., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Fu*, Y., Peters*, S., & Lissitz, R. (2025). Automated math item alignment to content standards using language model. (MARC Research Report). College Park, MD: University of Maryland.
5. Fu*, Y., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Xu, Q., Peters*, S., & Lissitz, R. (2025). Language model- enhanced automated item alignment to reading & writing content standards. (MARC Research Report). College Park, MD: University of Maryland.
6. Li*, M., Jiao, H., Zhou, T., Zhang*, N., Peters*, S., & Lissitz, R. (2024). *Item difficulty modeling using fine-tuned small and large language models*. (MARC Research Report). College Park, MD: University of Maryland.
7. Peters*, S., Zhang*, N., Jiao, H., & Lissitz, R. W. (2024). *A systematic review of item difficulty modeling* (MARC Research Report). College Park, MD: University of Maryland.
8. Zhang*, N., Jiao, H., & Lissitz, R. W. (2024). *A systematic review of alignment studies for state assessment programs.* (MARC Research Report). College Park, MD: University of Maryland.
9. Zhang*, N., Jiao, H., Yadav*, C., Sun*, Y., & Lissitz, R. W. (2024). *Alignment of the SAT Mathematics items and the MCAP Algebra I items to the Maryland Algebra I College and Career Ready standards* (MARC Research Report). College Park, MD: University of Maryland.
10. Jiao, H., Yadav, C., & Sharh, N. (2023). *Automated scoring of the NAEP math constructed-response items* (Technical Report). Submitted to the 2023 NAEP Math Item Automated Scoring Competition.
11. Xu*, S., Fisk*, C., Jiao, H., & Lissitz, R. W. (2023). *Comparison of pre-smoothing and post-smoothing using Equate (R package) and LEGS* (MARC Research Report). College Park, MD: University of Maryland.
12. Li*, G., Jiao, H., & Lissitz, R. W. (2023). *Comparing propensity matching and weighting in producing equivalent groups for linking* (MARC Research Report). College Park, MD: University of Maryland.
13. Jiao, H., Xu*, S., Fisk*, C., & Lissitz, R. W. (2023). *Investigating Maryland students' high school academic performance indictors as college and career readiness measures* (MARC Research Report). College Park, MD: University of Maryland.
14. Ren*, J., Jiao, H., Han*, Y., & Lissitz, R. W. (2022). *Further exploration of the relationship between Maryland students' high school academic performance and their post-secondary academic achievements* (MARC Research Report). College Park, MD: University of Maryland.
15. Jiao, H. (2022). *Psychometric analyses for the NIGMS student and faculty surveys*. College Park, MD: University of Maryland.
16. Tian*, C, Xu*, S., Jiao, H., Han*, Y., Yang*, H., & Lissitz, R. W. (2022). *Exploring the relationship between Maryland students' high school academic performance and their post-secondary academic achievements* (MARC Research Report). College Park, MD: University of Maryland.
17. Tian*, C, Jiao, H., Han*, Y., & Lissitz, R. W. (2022). *Exploring the relationship between Advanced Placement (AP) exam performance and the post-secondary academic achievements*

(MARC Research Report). College Park, MD: University of Maryland.

18. Jiao, H., Xu, S., & Zhou, T. (2021). *Automated scoring of the NAEP reading constructed-response items* (Technical Report). Submitted to the 2021 NAEP Reading Item Automated Scoring Competition.
19. Xu*, S., Tian*, C, Jiao, H., Han*, Y., Yang*, H., & Lissitz, R. W. (2021). *Combining instructionally embedded test scores to obtain scores equivalent to year-end test scores* (MARC Research Report). College Park, MD: University of Maryland.
20. Xu*, S., Tian*, C, Xin*, Q., Jiao, H., & Lissitz, R. W. (2021). *Alignment of the SAT mathematics items and the PARCC Algebra I items to the Maryland Algebra I College and Career Ready Standards* (MARC Research Report). College Park, MD: University of Maryland.
21. Qiao*, X., Jiao, H., & Lissitz, R. W. (2021). *Student engagement in remote testing* (MARC Research Report). College Park, MD: University of Maryland.
22. Xu*, S., Jiao, H., & Lissitz, R. W. (2021). *Virtual standard setting: Issues and practices* (MARC Research Report). College Park, MD: University of Maryland.
23. Tian*, C., Jiao, H., & Lissitz, R. W. (2021). *Detection of cheating in remote testing* (MARC Research Report). College Park, MD: University of Maryland.
24. Silbert, N., Campbell, S. G., Jiao, H., Lissitz, R., Piety, P., Tausczik, Y., Carter, B., Hughes, M., Jerome, B., Register, B., Sheehan, P., Hwang, B., Siegel, A., & Pandza, N. B. (2020). *United States Air Force Computer Language Proficiency Test (CLPT): proposed test content* (ARL-1917 Obj. 10 Technical Report). College Park: University of Maryland Applied Research Lab for Intelligence & Security.
25. Silbert, N., Campbell, S. G., Jiao, H., Lissitz, R., Piety, P., Tausczik, Y., Carter, B., Hughes, M., Jerome, B., Register, B., Sheehan, P., Hwang, B., Siegel, A., & Pandza, N. B. (2020). *United States Air Force Computer Language Proficiency Test (CLPT): proposed test format* (ARL-1917 Obj. 8 Technical Report). College Park: University of Maryland Applied Research Lab for Intelligence & Security.
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27. Jiao, H., Zhang, L., & Zhou, X. (2020). *Normative Interpretation of Classic Learning Test* (Technical Report). Classic Learning Test.
28. Qiao*, X., Liao*, M., Jiao, H., & Lissitz, R. W. (2020). *Transition weights in value tables for growth measure* (MARC Research Report). College Park, MD: University of Maryland.
29. Liao*, M., Qiao*, X., Jiao, H., & Lissitz, R. W. (2019). *Investigating the relationship between SAT scores and post-secondary outcomes* (MARC Research Report). College Park, MD: University of Maryland.
30. Qiao*, X., Tian, C., Jiao, H., & Lissitz, R.W. (2019). *Investigating the concordance relationship between the HSA cut scores and the PARCC cut scores using the 2018 PARCC test data*. (MARC research Report). College Park, MD: University of Maryland.
31. Liao*, M., Qiao*, X., Jiao, H., & Lissitz, R. W. (2019). *Investigating the relationship between the PARCC test scores and post-secondary outcomes* (MARC Research Report). College Park, MD: University of Maryland.
32. Liao*, M., Lee*, J., Jiao, H., & Lissitz, R. W. (2019). *Maryland state student growth percentile on Multi-State Alternate Assessment* (MARC Research Report). College Park, MD: University of Maryland.

33. Jiao, H., & Zhang, L. (2018). Psychometric properties of Classic Learning Test (Technical Report). Classic Learning Test.
34. Qiao*, X., Jiao, H., & Lissitz, R.W. (2017). *Combined score options for high school graduation assessment*. (MARC research Report). College Park, MD: University of Maryland.
35. Liao*, D., Liao*, M., Qiao*, X., Jiao, H., & Lissitz, R.W. (2017). *Investigating the concordance relationship between the HSA cut scores and the PARCC cut scores using the 2017 PARCC test data.* (MARC research Report). College Park, MD: University of Maryland.
36. Liao*, M., Liao*, D., Jiao, H., & Lissitz, R. W. (2017). T*he relationship between the PARCC test scores and the college admission tests: SAT/ACT/PSAT* (MARC Research Report). College Park, MD: University of Maryland.
37. Zou*, J., Liao*, D., Liao*, M., Jiao, H., & Lissitz, R. W. (2017). *Investigating invariance of the concordance relationship between the HSA cut scores and PARCC cut scores using the 2017 test data* (MARC Research Report). College Park, MD: University of Maryland.
38. Liao*, M., Liao*, D., Jiao, H., & Lissitz, R. W. (2017). *Investigating invariance of the relationship between the PARCC test scores and the college admission tests: SAT/ACT/PSAT across years* (MARC Research Report). College Park, MD: University of Maryland.
39. Chen*, L., Jiao, H., & Lissitz, R. W. (2017). *Investigating invariance of the concordance relationship between the MSA cut scores and PARCC cut scores across years* (MARC Research Report). College Park, MD: University of Maryland.
40. Chen*, L., Liao*, M., Liao*, D., Zou*, J., Jiao, H., & Lissitz, R. W. (2016). *Maryland State student subgroup performance on 2016 PARCC tests* (MARC Research Report). College Park, MD: University of Maryland.
41. Zou*, J., Liao*, M., Jiao, H., & Lissitz, R. W. (2016). *Maryland State student performance on 2016 PARCC tests* (MARC Research Report). College Park, MD: University of Maryland.
42. Chen*, L., Zou*, J. Jiao, H., & Lissitz, R. W. (2016). *Investigating the concordance relationship between the MSA cut scores and PARCC cut scores* (MARC Research Report). College Park, MD: University of Maryland.
43. Jiao, H., Zou*, J., Liao*, D., Li*, C., & Lissitz, R. W. (2016). *Investigating the concordance relationship between the HSA cut scores and PARCC cut scores* (MARC Research Report). College Park, MD: University of Maryland.
44. Bryant*, R., Jiao, H., & Lissitz, R. W. (2016). *An investigation of NYC students' performance and experience with the 2015 PARCC pilot tests* (Research report submitted to PARCC Inc.). College Park, MD: University of Maryland.
45. Liao*, D., Li*, C., Jiao, H., & Lissitz, R. W. (2015). *Investigating the relationship between the PARCC test scores and the college admission tests: SAT/ACT/PSAT* (MARC Research Report). College Park, MD: University of Maryland.
46. Liao*, D., Jiao, H., & Lissitz, R. W. (2015). *Comparison of different approaches to dealing with directional local item dependence in multipart items* (MARC Research Report). College Park, MD: University of Maryland.
47. Li*, M., Jiao, H., & Lissitz, R. W. (2015). *The impact of ignoring multiple-group structure in testlet-based tests on ability estimation* (MARC Research Report). College Park, MD: University of Maryland.
48. Kang*, Y., Jiao, H., & Lissitz, R. W. (2015). *The impact of ignoring the multiple-group structure of item response data* (MARC Research Report). College Park, MD: University of Maryland.
49. Lee*, D., Jiao, H., & Lissitz, R. W. (2015). *Comparison of latent trait and latent class-based models for cognitive diagnosis* (MARC Research Report). College Park, MD: University of

Maryland.

50. Jiao, H. (2014). *Differential item functioning analysis for testlet-based assessments*. (Research Report submitted to the Governing Board for the AERA Grants Program). College Park, MD: University of Maryland.
51. Jiao, H., Haynie, K., & Liu*, J. (2011). *A partial credit modeling study of the NCLEX innovative items*. (Research Report submitted to the Joint Research Committee, NCSBN). College Park, MD: University of Maryland.
52. Jiao, H., Lissitz, R., & Hou*, X. (2010). *Computer-based testing in the K-12 state assessments*. (MARCES Technical Report). College Park, MD: University of Maryland.
53. Lissitz, R., Li*, Y., & Jiao, H. (2009). *Investigation of Factorial Structure of the 2009 HSA Biology Test across Accommodated and non-accommodated Students*. (MARCES Technical Report). College Park, MD: University of Maryland.
54. Jiao, H., Wang, S., Johnson, M., & Jiang, J. (2007). *Investigation of 2006 FCAT Reading Grade 3 Test*. (Research Report). San Antonio, TX: Harcourt Assessment.
55. Jiao, H. (2007). *The calibration, equating, and scaling specification for the spring 2007 test administration for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
56. *Technical Report for the Michigan Educational Assessment Program 2006-2007 Cycle*. (2007). Harcourt Assessment Inc. San Antonio, TX.
57. *Technical Report for the Michigan Merit Exit Program 2006-2007 Cycle*. (2007). Harcourt Assessment Inc. San Antonio, TX.
58. Jiao, H. (2007). *The calibration, equating, and scaling specification for the fall 2006 test administration for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
59. Jiao, H. (2006). *Sampling Design for the Michigan Educational Assessment Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
60. Vukmirovic, Z., & Jiao, H. (2006). *Calibration and equating options for FCAT writing + assessment*. (White Paper). San Antonio, TX: Harcourt Assessment.
61. Jiao, H. (2006). *Test Construction Specification for the Michigan Educational Assessment Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
62. Jiao, H., Wang, S., He, W., & Vukmirovic, Z. (2006). *The comparability of the spring 2006 online pilot test and the paper-and-pencil tests for the Mississippi Subject Area Testing Program*. (Research Report). San Antonio, TX: Harcourt Assessment.
63. Jiao, H. (2006). *The test construction specification for the fall 2006 and spring 2007 test administrations for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
64. Jiao, H. (2006). *The calibration, equating, and scaling specification for the spring 2006 test administration for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
65. Jiao, H., & Vukmirovic, Z. (2006). *The calibration, equating, and scaling specification for the Fall 2005 test administration for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
66. Vukmirovic, Z., Jiang, J., & Jiao, H. (2005). *Comparison of different scoring methods of FCAT writing + assessments*. (Research Report). San Antonio, TX: Harcourt Assessment.
67. Jiao, H., & Vukmirovic, Z. (2005). *The comparability of the spring 2005 online pilot test and the paper-and-pencil tests for Mississippi Subject Area Testing Program*. (Research Report). San Antonio, TX: Harcourt Assessment.
68. Jiao, H. (2005). *The test construction specification for the fall 2005 and spring 2006 test*

administrations for the Mississippi Subject Area Testing Program. (Technical Report). San Antonio, TX: Harcourt Assessment.

69. Jiao, H., & Vukmirovic, Z. (2005). *The calibration, equating, and scaling specification for the spring 2005 test administration for the Mississippi Subject Area Testing Program*. (Technical Report). San Antonio, TX: Harcourt Assessment.
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71. Jiao, H., Ayres, G., & Vukmirovic, Z. (2005). *Impact of removing open-ended items from live administration for Mississippi Subject Area Testing Program*. (Research Report). San Antonio, TX: Harcourt Assessment.
72. Jiao, H., Chu, K., & Vukmirovic, Z. (2005). *Comparison of writing prompts in field-test and live administration for Mississippi Subject Area Testing Program*. (Research Report). San Antonio, TX: Harcourt Assessment.
73. Wang, S, Jiao, H., Young, M. J., Brooks, T., & Olson, J. (2005). *The effect of computerized test vs. paper-and-pencil test on K-12 student reading achievement: A meta-analysis.* (Research Report). San Antonio, TX: Harcourt Assessment.
74. Jiao, H., Wang, S., Vukmirovic, Z., & Young, M. (2004). *A Study to Establishing the Vertical Scale for MCA-II Using the Stanford Achievement Test 10.* (Research Report). San Antonio, TX: Harcourt Assessment.
75. Jiao, H., Wang, S. & Vukmirovic, Z. (2004). *Dimensionality Assessment for MCAS Grade 4, 7, and 10 ELA 2003 Test Administration*. (Research Report). San Antonio, TX: Harcourt Assessment.
76. Jiao, H., & Vukmirovic, Z. (2004). *Test construction specifications for Minnesota Academic Assessments-II 2005 pilot test administration*. (Technical report). Harcourt Assessment, Inc. San Antonio, TX.
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78. Wang, S., Jiao, H., Brooks, T., & Young, M. J. (2004). *Construct equivalence of Stanford Diagnostic Reading Test (Fourth Edition) between two administration modes*. (Research Report). San Antonio, TX: Harcourt Assessment.
79. Wang, S., Jiao, H., Young, M. J., & Brooks, T. (2004). *Construct equivalence between customized and original Stanford Achievement Reading Comprehension Tests* (Tenth Edition). (Research Report). San Antonio, TX: Harcourt Assessment.
80. Davis, J., Jiao, H., Vukmirovic, A., & Young, M. J. (2004). *Comparison between pre-equating and post-equating for large-scale state assessment program*. (Research report), Harcourt Assessment Inc. San Antonio, TX.
81. Stephenson, A., Jiao, H., & Wall, N. (2004). *A performance comparison of native and Non-native speakers of English on an English Language Proficiency Test*. (Research report). Harcourt Assessment, Inc. San Antonio, TX.
82. *Nevada Technical Report for the CRT and HSPE Assessments 2002-2003 Cycle*. (2004). Harcourt Assessment Inc. San Antonio, TX.
83. Jiao, H., & Paek, I. (2002). *Examining the relationship between the full and the abbreviated versions of the Stanford Diagnostic Tests for Reading and Mathematics*. Harcourt Educational Measurement. San Antonio, TX.
84. Cerrillo, T., Young, M. J., Skorupski, W., Jiao, H., Paek, I., Shin, S., & Turner, J. (2002). *Performance Assessment research program: Analyses of bias and Differential Item Functioning on the New Standards Reference Examinations (Form E).* Harcourt Educational Measurement,

San Antonio, TX.

D. BOOK REVIEWS, OTHER ARTICLES, NOTES

1. Jiao, H. (2024). Book review: Computational Psychometrics: New Methodologies for a New Generation of Digital Learning and Assessment. *Journal of Educational Measurement*. DOI: 10.1111/jedm.12392
2. Jiao, H. (2021). Book review: Handbook of Item Response Theory, Volume Three: Applications, *Measurement: Interdisciplinary Research and Perspectives*, 19:3, 186-189, DOI: 10.1080/15366367.2021.1936390.
3. Jiao, H. (2020). Book review: Sociocognitive Foundations of Educational Measurement. *Measurement: Interdisciplinary Research and Perspectives*, 18:1, 37-39, DOI: 10.1080/15366367.2019.1705655
4. Liao*, M., & Jiao, H. (2018). Book review: Psychometric Methods: Theory in Practice, by L. R. Price. *Psychometrika.* doi: 10.1007/s11336-018-9625-x
5. Qiao*, X., & Jiao, H. (2018). Book review: Bayesian psychometric modeling. *Measurement: Interdisciplinary Research and Perspectives, 16*(2).
6. Jiao, H. (2011). Book review: Bayesian Item Response Theory Modeling. *Psychometrika*. *76*(2), 360-362.
7. Jiao, H. (2009). Diagnostic classification models: Which one should I use? *Measurement: Interdisciplinary Research & Perspective*, *7*(1), 65-67.

E. TALKS, ABSTRACTS, AND OTHER PROFESSIONAL PAPERS PRESENTED

Invited Talks

1. Jiao, H. (2025, November). *AI-driven item quality evaluation: item content alignment and difficulty modeling.* Invited presentation at the National Conference on AI in Education at AI4STEM, Athen, GA.
2. Jiao, H. (2025, March). *Added Values of Data Augmentation in Computational Psychometrics and Beyond in Educational Research*. Invited presentation at the 11th TUESAP (Texas Universities Educational Statistics and Psychometrics) conference, Dallas, TX.
3. Jiao, H. (2024, December). *Enhanced Educational Assessment Practices with LLMs*. Keynote presentation at the NeurIPS 2024 Workshop on Large Foundation Models for Educational Assessment, Vancouver, Canada.
4. Jiao, H., Zhou, T., & Li, M. (2024, November). *Data augmentation in computational Psychometrics*. Invited presentation at the American Educational Research Association Division D International Committee Webinar Series.
5. Jiao, H. (2024, November). *Enhance Large-Scale Educational Assessment Practices with the Advances in Artificial Intelligence*. Keynote presentation at the International Association for Innovations in Educational Assessment, Abuja. Nigeria.
6. Jiao, H. (2023, July). *Integrating Item Product and Process data to Enhance the Theory and Practices of Psychometric Analyses in Digital Assessments*. Keynote presentation at the International Meeting of the Psychometric Society. College Park, MD.
7. Jiao, H., Yavad*, C., & Li*, G. (2023, June 7). *Exploration of the utility of person misfit and anomaly measures in developing cheating detectors for large-scale assessment using machine learning methods*. Invited presentation at the virtual ATP EdTech Computational Psychometric

Summit.

8. Jiao, H. (2023, January). *Cheating Detection in Assessing Learning Outcomes in the Digital Era*. Invited presentation at the College Board (virtually presented).
9. He, Q., Liao, D., Ling, H. K., & Jiao, H. (2022, March). *Evaluating consistency of adult problem-solving behaviors across multiple tasks using PIAAC process data*. Presented at International PIAAC Research Conference 2022, Mannheim, Germany (virtually presented).
10. Jiao, H., Zhou*, T, & Ding*, Y. (2021, July). *Analyzing responses, response time and answer changes for cognitive diagnosis using machine learning algorithms*. Invited presentation at the virtual International Meeting of the Psychometric Society.
11. He, Q., Liao, D., Ling, H. K., & Jiao, H. (2021, October). Evaluating Consistency of Adult Problem-Solving Behaviors across Multiple Tasks Using PIAAC Process Data. Presented at the International PIAAC Research Conference, Mannheim, Germany.
12. Jiao, H. (2020, December). *Integrating multiple data sources for cognitive diagnosis*. Presented at the fourth Summit on AI and Big Data in Education in China, Beijing, China.
13. Jiao, H. (2019, August). *Joint modeling of item responses and response time for cognitive diagnosis*. Presented at the third Summit on AI and Big Data in Education in China, Beijing, China.
14. Jiao, H. & Zhan, P. (2018, July). T*echnology-enhanced innovative science assessment*. Presented at the Second National Conference on STEM Education in China, Shenzhen, China.
15. Jiao, H. (2018, June). *Development and modeling of technology-enhanced innovative assessment*. Presented at East China Normal University, Shanghai, China.
16. Jiao, H. (2018, June). *Modeling of technology-enhanced innovative assessment data*. Presented at Beijing Normal University, Beijing, China.
17. Jiao, H. (2018, June). *Joint modeling for product data and process data for cognitive diagnosis*. Presented at Jianxi Normal University, Nanchang, Jiangxi Province, China.
18. Jiao, H., Zhan*, P., Liao*, M., & Man*, K. (2017, November). *A joint multigroup testlet model for responses and response time accounting for differential item and speed functioning*. Invited presentation at the fifth conference on the Statistical Methods in Psychometrics. Columbia University, New York.
19. Jiao, H. (2015, April). *A multilevel testlet model for mixed-format tests*. Invited presentation at the Annual Meeting of the National Council on Measurement in Education for the Bradley Hanson Award for Contributions to Educational Measurement, Chicago, Illinois.
20. Jiao, H., Kamata, A., & Xie, C. (2014, November). *A multilevel cross-classified testlet model for complex item and person clustering in item response modeling*. Presented at the conference on Advances in multilevel modeling for educational research: Addressing practical issues found in real-world applications. University of Maryland, College Park.
21. Jiao, H., & Lissitz, R. (2014, October). *Exploring a psychometric model for calibrating innovative items embedded in multiple contexts*. Presented at the 14th Annual Maryland Assessment Conference: *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective*. University of Maryland, College Park.
22. Jiao, H. & Yang, X. (2014, May). *A multicomponent testlet model*. Presented at the Third Workshop on Statistical Methods in Cognitive Assessments. Fudan University, Shanghai, China.
23. Jiao, H. (2014, February). *Polytomous multilevel testlet models for testlet-based assessments with complex sampling designs*. Presented at the Joint Program in Survey Methodology, University of Maryland, College Park.
24. Jiao, H., & Lissitz, R. (2012, October). *Modeling latent growth using mixture item response theory*. Presented in the Twelfth Annual Maryland Assessment Conference: *Value Added Modeling and Growth Modeling with Particular Application to Teacher and School*

Effectiveness. University of Maryland, College Park.

25. Jiao, H. (2011, July). *Item response theory models for locally dependent item response data*. Presented in the Workshop on *Modern Psychometric and Statistical Methods for Large-Scale Education Assessments*. Beijing Normal University, Beijing, China.
26. Jiao, H. (2011, July). *Current status in K-12 state assessment programs in the USA*. Presented at the Morning Star company, Guangzhou, China.
27. Jiao, H. (2010, February). *Effects of items and person clustering on measurement precision*. Invited presentation at the Educational Psychology Colloquium in the Department of Human Development, University of Maryland, College Park.
28. Jiao, H., &Wang, S. (2004, August). *Psychometric issues in developing Stanford English proficiency test*. Presented at the International Examination Forum. Tianjin, China.
29. Wang, S., & Jiao, H. (2004, August). *Development of Stanford achievement and diagnostics Test*. Presented at the International Examination Forum. Tianjin, China.

Refereed National and International Conference Proceedings

1. Li, M., Jiao, H., Zhou, T., Peters, S., & Choi, H. (2026, April). *Text-based Approaches to Item Difficulty and Discrimination Modeling*. Paper to be presented at the Annual Meeting of the National Council on Measurement in Education, Los Angeles, CA.
2. Li*, M., Zhang*, N., Fan*, C., Jiao, H., Fu*, Y., Peters*, S., Xu, Q., Lissitz, R., & Zhou, T. (2025, November). *Understanding the rationales of LLM in predicting item difficulty*. Conference Presentation at EMNLP.
3. Zhang*, N., Peters*, S., Jiao, H., Li, M., Lissitz, R. W., Fu*, Y., & Xu, Q. (2025, October). *Automated item content alignment: a systematic review*. Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
4. Peters*, S., Zhang*, N., Jiao, H., Li*, M., Zhou, T., Lissitz, R., Fu*, Y., & Xu*, Q. (2025, October). *Text-based approaches to item difficulty modeling in large-scale assessments: A systematic review*. Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
5. Xu, Q., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Fu*, Y., Peters*, S., & Lissitz, R. (2025, October). *Automated math item alignment to content standards using language models.* Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
6. Fu*, Y., Jiao, H., Zhang*, N., Li*, M., Zhou, T., Xu, Q., Peters*, S., & Lissitz, R. (2025, October). *Language model-enhanced automated item alignment to reading & writing content standards*. Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
7. Li*, M., Jiao, H., Zhou, T., Zhang*, N., & Peters*, S. (2025, October). *Item difficulty modeling using fine-tuned small and large language models*. Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
8. Hua, H., Jiao, H., & Wang, X. (2025, November). *Exploration of generative large language models for automated scoring of long essays*. Paper presented at the Artificial Intelligence in Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.
9. Jiao, H., Hua, H., & Choi, H. (2025, November). *Exploring the utilities of the rationales from LLMs to enhance automated essay scoring*. Paper presented at the Artificial Intelligence in

Measurement and Education Conference of the National Council on Measurement in Education, Pittsburg, PA.

10. Hua*, H., Jiao, H., & Song*, D. (2025, July). *Comparison of rating accuracy and rationales between AI ratings and human ratings of AP Chinese essays*. Paper presented at the Annual Meeting of presented at the International Meeting of the Psychometric Society, Minneapolis, MN.
11. Jiao, H. (2025, June). *Content, psychometric, and practical considerations of shortening test lengths: Perspectives from state summative assessments and an English language proficiency test*. Paper to be presented at the Annual Meeting of Council of Chief State School Officers (CCSSO) National Conference on Student Assessment (NCSA), Denver, CO.
12. Jiao, H. (2025, June). *AI-enhanced item development for state assessment programs*. Paper presented at the Annual Meeting of Council of Chief State School Officers (CCSSO) National Conference on Student Assessment (NCSA), Denver, CO.
13. Jiao, H., Song, D., & Lee, W. (2025, April). *Estimating human and AI rater effects using the Many-Facet Rasch model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
14. Jiao, H., Lnu, C., Zhang, N., Li, M., & Zhou, T. (2025, April). *Enhancing automated scoring with writing process data*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
15. Jiao, H. (2025, April). *Understanding AI and human ratings: Complementary roles of AI and human raters*. Organizer of the session presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
16. Jiao, H. (2025, April). *AI innovative applications in automated scoring*. Discussant of the session presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
17. Jiao, H. (2025, April). *Fuse diverse process data in educational measurement*. Discussant of the session presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
18. Wang*, K., Hua*, H., Yan*, P., Jiao, H., & Song*, D. (2025, April). *Automated scoring of long essays*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
19. Zhang, N., Jiao, H., Lnu, C., Sun, Y., & Lissitz, R. (2025, April). *Alignment of digital SAT math to a state's Algebra I content standards and cognitive complexity*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver, CO.
20. Jiao, H., Lnu, C., & Zhang, N. (2024, June). *Using writing process data to information writing quality.* Paper presented at the Annual Meeting of presented at the International Meeting of the Psychometric Society, Prager, Czech Republic.
21. Jiao, H. (2024, June). *Scores and score uses in through-year state assessment programs.* Paper presented at the Annual Meeting of Council of Chief State School Officers (CCSSO) 2024 National Conference on Student Assessment (NCSA), Seattle, WA.
22. Jiao, H. (2024, June). *Exploring the potential of AI in state summative assessment: Opportunities and challenges.* Paper presented at the Annual Meeting of Council of Chief State School Officers (CCSSO) 2024 National Conference on Student Assessment (NCSA), Seattle, WA.
23. Jiao, H., Lnu*, C., & Zhai, X. (2024, April). *Data augmentation for class imbalance in automated scoring of constructed-response items in science assessment.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Philadelphia, PA.
24. Jiao, H. (2024, April). *Machine Learning Aspects of Computational Psychometrics*. Session Discussant at the Annual Meeting of the National Council on Measurement in Education, , Philadelphia, PA.

25. Jiao, H., Lnu, C., Wan, L., & Hua, W. (2023, July). D*etecting essays produced by generative AI*. Paper presented at the International Meeting of the Psychometric Society, College Park, USA.
26. Jiao, H. (2023, June). *Policy, content, and psychometric considerations in developing through-year state assessment system.* Paper presented at the Council of Chief State School Officers (CCSSO) 2023 National Conference on Student Assessment (NCSA), New Orleans, LA.
27. Jiao, H., Lnu*, C., & Li*, G. (2023, April). *Integrating psychometric analysis and machine learning to augment data for cheating detection.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.
28. Jiao, H. & Liao, D. (2023, April). *Joint bi-factor modeling of item responses, response time, and answer changes.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.
29. Jiao, H., Ren*, J., & Lissitz, R. (2023, April). *Integrating high school classroom assessment data and large-scale summative assessment data in developing college and career readiness measures.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.
30. Zhou*, T. & Jiao, H. (2022, August). *Developing a stacking ensemble machine learning model for cheating detection in an online exam*. Paper presented at the Annual Meeting of the American Psychology Association, Minnesota.
31. Jiao, H. (2022, April). *Modeling-based approach to oral reading fluency assessment*. *Session Discussant* at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.
32. Jiao, H., Chen*, X. & Zhou*, T. (2022, April). *Integrating cognitive and non-cognitive data to assess student engagement: Bi-factor joint modeling*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.
33. Jiao, H., Zhan, P., Zhou*, T., & Ding*. (2022, April). *Joint bi-factor modeling of responses, response time and answer changes to improve the accuracy of cognitive diagnosis*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.
34. He, Q., Liao, D., Ling, H. K., & Jiao, H. (2022, April). *Evaluating consistency of behavioral patterns across multiple tasks using process data: An empirical study in PIAAC*. Paper presented at the Annual Meeting of the American Educational Research Association. San Diego, CA.
35. Jiao, H. & Lissitz, R. (2021, June). *What hath the Coronavirus brought to Assessment? Unprecedented Challenges in Educational Assessment in 2020 and Years to Come*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Baltimore, MD.
36. Jiao, H., Ding*, Y., Yin*, C. & Wang, S. (2021, June). *Joint modeling of responses, response time and answer changes for cognitive diagnosis*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Baltimore, MD.
37. Jiao, H., Qiao*, X., & Lee*, J. (2021, June). *Empirical investigation of joint modeling of responses and response time in testlet-based Lear-On-The-Fly Tests (LOFT)*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Baltimore, MD.
38. He, Q., Liao, D., Ling, H. K., & Jiao, H. (2021, June). *Evaluating Consistency of Behavioral Patterns across Multiple Tasks Using Process Data in PIAAC*. Paper presented at the Annual Meeting of National Council on Measurement in Education Conference.

39. Ding*, Y., Choi, J., Jiao, H., & Ryoo, J. (2021). *Investigate the Psychometric Properties of Multiple Forms based on Automatic Item Generation*. Paper presented at the annual meeting of the National Council on Measurement in Education, Baltimore, MD.
40. Jiao, H., Ding*, Y., & Yin*, C. (2020, July). *Joint modeling of responses, response time and answer change patterns for cognitive diagnosis*. Paper presented at the Virtual International Meeting of the Psychometric Society.
41. Liao*, M. & Jiao, H. (2020, July). *Investigating the measurement invariance in the multiple-strategy longitudinal diagnostic model*. Paper presented at the Virtual International Meeting of the Psychometric Society.
42. Qiao*, X. & Jiao, H. (2020, July). *Nonlinear latent effects in cognitive diagnostic modeling incorporating response times*. Paper presented at the Virtual International Meeting of the Psychometric Society.
43. Xu*, S. & Jiao, H. (2020, July). *Utilizing response time in item selection in variable-length CAT*. Paper presented at the Virtual International Meeting of the Psychometric Society.
44. Olsen*, E. & Jiao, H. (2020, July). *A multilevel testlet model for responses and response time*. Paper presented at the Virtual International Meeting of the Psychometric Society.
45. Zhu*, H. & Jiao, H. (2020, July). *Bayesian change point analysis for detecting aberrant response behaviors*. Paper presented at the Virtual International Meeting of the Psychometric Society.
46. Jiao, H., Liao*, M., & Wang*, W. (2019, July). *Joint modeling of responses and response time for cognitive diagnosis at the subdomain level*. Paper presented at the International Meeting of the Psychometric Society. Chile.
47. Jiao, H., & Qiao*, X. (2019, July). *Understanding problem-solving strategies by analyzing log files from multiple items using data mining methods*. Paper presented at the International Meeting of the Psychometric Society. Chile.
48. Liao*, D., He, Q., & Jiao, H. (2019, April). *Mapping background variables with sequential patterns in problem-solving tasks*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, Canada.
49. Zhan, P., Jiao, H., Wang, W.-C., & Man*, K. (2019, April). *A multidimensional hierarchical framework for modeling speed and ability in computer-based multidimensional tests*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, Canada.
50. Jiao, H., Liao*, M., Liao, D., & Zhan, P. (2019, April). *Multigroup cognitive diagnostic joint modeling for responses and response time*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. Toronto, Canada.
51. Liao*, M., Patton, J., Yan, R., & Jiao, H. (2019, April). *Mining process data to detect item harvesters.* Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, Canada.
52. Liao*, M., & Jiao, H. (2019, April). *Module assembly and routing of cognitive diagnostic multistage adaptive test.* Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, Canada.
53. Wang*, W., Jiao, H., & Sun*, J. (2019, April). *Estimating students' topic-level abilities using extended higher-order IRT models*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. Toronto, Canada.
54. Jiao, H., Liao*, M., & Zhan*, P. (2018, July). *Multigroup cognitive diagnosis modeling for responses and response time*. Paper presented at International Test Commission Conference. Montreal, Canada.
55. Qiao*, X., & Jiao, H. (2018, July). *Comparing data mining methods and psychometric models in*

analyzing process data and response data. Paper presented at the 2018 annual conference of International Meeting of the Psychometric Society (IMPS), New York City, NY.

56. Jiao, H., Liao*, M., & Zhan*, P. (2018, April). *Cognitive diagnostic modeling using responses and response times for items embedded in multiple contexts*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. New York City, NY.
57. Li*, C. & Jiao, H. (2018, April). *Subscore reporting for double-coded items embedded in multiple contexts.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, New York, NY.
58. Zhan, P., Ma, W., Jiao, H., & Ding, S. (2018, April). *A sequential higher-order latent structural model for hierarchical attributes*. Paper presented at the annual meeting of the National Council on Measurement in Education, New York.
59. Liao*, D., Jiao, H., & Zhan*, P. (2018, April). *A multigroup testlet model for cognitive diagnosis*. Paper presented at the annual meeting of the 2018 National Council on Measurement in Education, New York, NY.
60. Liao*, M., & Jiao, H. (2018, April). *Incorporating item features into diagnostic classification models*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. New York City, NY.
61. Qiao*, X., & Jiao, H. (2018, April). *Impact of nonignorable missing data on the performance of person fit statistic*. Paper presented at the annual meeting of the National Council on Measurement in Education (NCME), New York City, NY.
62. Jiao, H., Zhan*, P., & Luo, Y. (2017, July) *A non-compensatory Rasch testlet model for items embedded in multiple contexts.* Paper presented at the International Meeting of Psychometric Society, Zurich, Switzerland.
63. Zhan*, P., Jiao, H., & Liao*, D. (2017, July). *Cognitive diagnosis modeling incorporating item response times*. Paper presented at the 2017 International Meeting of the Psychometric Society, Zurich.
64. Jiao, H., Luo, Y., Man*, K., & Liao*, D. (2017, April). *Bayesian estimation of item response theory model parameters using OpenBUGS and Stan*. Pre-conference training session at the Annual Meeting of the National Council on Measurement in Education. San Antonio, Texas.
65. Liao*, M. & Jiao, H. (2017, April). *Incorporating covariates in log-linear cognitive diagnosis model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. San Antonio, Texas.
66. Liao*, D., Jiao, H., & Lei, M. (2017, April). *Method comparison of equating testlet-based tests with mixed-format items*. Paper presented at the 2017 annual meeting of the National Council on Measurement in Education, San Antonio, TX.
67. Olsen*, E. & Jiao, H. (2017, April). *Mixture MIRID*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. San Antonio, Texas.
68. Man*, K. & Jiao, H. (2017, April). *Robust Bayesian estimation of latent parameters in item response models ignoring existence of aberrance behaviors*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. San Antonio, Texas.
69. Zhan*, P., & Jiao, H. (2017, December). *A sequential higher-order latent structure model for hierarchical attributes in cognitive diagnoses*. Paper presented at the 2017 World Educational Research Association & Hong Kong Educational Research Association, Hong Kong.
70. Man*, K., & Jiao, H. (2016, July). *Directional local dependency testlet model*. Paper presented at the International Meeting of the Psychometric Society, Asheville, NC.
71. Li*, C., Jiao, H., & Lissitz, R. W. (2016, July) *Comparing pattern scoring with number-correct scoring in mixed-format tests.* Paper presented at the International Meeting of the Psychometric Society, Asheville, NC.

72. Jiao, H., Zou*, J., Liao*, D., Li*, C., & Lissitz, R. W. (2016, April). *A comparison of methods to link a state test to the PARCC consortium test*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. Washington D.C.
73. Man*, K. Jiao, H., & Ouyang, Y. (2016, April). *Response time based nonparametric person fit index for aberrant response behavior detection in large-scale assessment*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. Washington D.C.
74. Li*, C. & Jiao, H. (2016, April). *A multilevel cross-classified dichotomous Item Response Theory model for complex person clustering structures*. Paper presented at the Annual Meeting of the National Council on Measurement in Education. Washington D.C.
75. Liao*, D., Jiao, H., & Lissitz R. W. (2016, April). *A conditional IRT model for directional local item dependency in multipart items*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Washington, D.C.
76. Li*, M., Jiao, H., & Lissitz, R. W. (2016, April). *The impact of ignoring multiple-group structure in testlet-based tests on ability estimation*. Presented at the Annual Meeting of the National Council on Measurement in Education, Washington, D.C.
77. Kang*, Y., Jiao, H., & Lissitz, R. W. (2016, April). *The impact of ignoring the multiple-group structure of item response data*. Presented at the Annual Meeting of the National Council on Measurement in Education, Washington, D.C.
78. Bryant*, R. & Jiao, H. (2016, April). *Investigating item parameter drift amplification and cancellation at the testlet-level on model parameter estimation*. Presented at the Annual Meeting of the National Council on Measurement in Education, Washington, D.C.
79. Li*, C. & Jiao, H. (2016, April). *Modeling learning growth with a cross-classified multilevel IRT model*. Paper presented at the Annual Meeting of the American Educational Research Association. Washington D.C.
80. Liao*, D. & Jiao, H. (2016, April). *A multi-group cross-classified testlet model for dual local item dependence in the presence of DIF items*. Paper presented at the 18th International Objective Measurement Workshop, Washington, D.C.
81. Liao*, M. & Jiao, H. (2016, April). *A combination of diagnostic classification model and IRT model with testlet effects*. Paper presented at the 18th International Objective Measurement Workshop, Washington, D.C.
82. Zheng*, Y., & Jiao, H. (2016, April). *Comparison of classification accuracy based on IRT and measurement decision theory on tests with polytomous items*. Paper presented at the 18th International Objective Measurement Workshop, Washington, D.C.
83. Man*, K., & Jiao, H. (2016, April). *New response time based index for detecting aberrant behavior*. Paper presented at the 18th International Objective Measurement Workshop, Washington, D.C.
84. Jiao, H., Wolfe, E., Foltz, P., & Harrell-Williams, L. M. (2015, Nov.). *Distributional agreement indices for evaluating the performance of automated scoring*. Presentation at the Annual Meeting of the AEA-Europe Conference, Glasgow, England.
85. Song, T., Wolfe, E., & Jiao, H. (2015, Nov.). *What makes an essay difficult to score*. Presentation at the Annual Meeting of the AEA-Europe Conference, Glasgow, England.
86. Li*, C., Jiao, H., & Liao*, D. (2015, July). *A multilevel cross-classified polytomous item response theory model for complex person clustering structures*. Paper presented at the Annual International Meeting of the Psychometric Society. Beijing, China.
87. Jiao, H., Dogan, E., & Lissitz, R. W. (2015, April). *Modeling local item dependence in multipart items using item splitting*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, Illinois.
88. Liao*, D. & Jiao, H. (2015, April). A *multilevel Graded Response testlet model with*

complex sampling designs. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, Illinois.

89. Li*, T. & Jiao, H. (2015, April). *Guessing detection using hybrid mixture IRT model with response times*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, Illinois.
90. Zheng*, X., Jiao, H., & Zheng*, Q. (2015, April). *Evaluating dimensionality assessment procedures in complex-structure noncompensatory framework*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, Illinois.
91. Jiao, H., Bryant*, R., & Luo, Y. (2014, October). *Random vs. adaptive assignment of field-test items in computerized adaptive tests*. Paper presented at the Annual Meeting of the International Association of Computerized Adaptive Testing. Princeton, New Jersey.
92. Luo*, Y., Jiao, H., & Lissitz, R. (2014, July). *An Empirical study of the impact of the choice of persistence model in value-added modeling upon teacher effect estimates.* Paper presented at the Annual International Meeting of the Psychometric Society. Madison, Wisconsin.
93. Jiao, H., & Wang, S. (2014, April). *Modeling complex binary item responses with an IRT model with internal restrictions on item difficulty*. Paper presented at the 2014 Annual Meeting of the National Council on Measurement in Education, Philadelphia, PA.
94. Song, T., Wolfe, E., & Jiao, H. (2014, April). *Features of difficult-to-score essays*. Paper presented at the 2014 Annual Meeting of the National Council on Measurement in Education, Philadelphia, PA.
95. Xie*, C., & Jiao, H. (2014, April). *Cross-classified modeling of dual local item dependence*. Paper presented at the 2014 Annual Meeting of the National Council on Measurement in Education, Philadelphia, PA.
96. Li*, T., Li*, M., Jiao, H., & Lissitz, R. (2014, April). *Bias in multilevel IRT estimation of teacher effectiveness*. Paper presented at the 2014 Annual Meeting of the National Council on Measurement in Education, Philadelphia, PA.
97. Jiao, H., Wolfe, E., & Song, T. (2014, April). *Guessing in Rasch modeling*. Paper presented at the 2014 International Objective Measurement Workshop, Philadelphia, PA.
98. Jiao, H. & Macready, G. (2013, July). *Mixture hybrid Item Response Theory modeling with different functional forms across latent classes*. Paper presented at the Annual Meeting of the Psychometric Society. Arnhem, Netherland.
99. Jiao, H., Kamata, A., Van Wie*, A., & Luo*, Y. (2013, April). *A multilevel testlet model for multiple hierarchical levels of person clustering effects*. Paper presented at the 2013 Annual Meeting of the National Council on Measurement in Education, San Francisco, CA.
100. Li*, T., Jiao, H., Harring, J., & Macready, G. (2013, April). *Adding covariates to mixture item response models: a comparison of different approaches*. Paper presented at the 2013 Annual Meeting of the National Council on Measurement in Education, San Francisco, CA.
101. Chen*, Y.-F., von Davier, M., & Jiao, H. (2013, April). *Comparison of different approaches to dealing with testlet effects in mixture item response theory modeling*. Paper presented at the 2013 Annual Meeting of the National Council on Measurement in Education, San Francisco, CA.
102. Chen*, Y.-F., & Jiao, H. (2013, April). *Evaluating parameter recovery in the mixture Rasch model based computerized adaptive tests with missing data.* Paper presented at the 2013 Annual Meeting of the American Educational Research Association, San Francisco, CA.
103. Li*, T., Xie*, C., & Jiao, H. (2013, April). *Assessing fit of alternative polytomous item response models using posterior predictive model checking*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

104. Xie*, C., & Jiao, H. (2013, April). *The Rasch model plus ability based slipping*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
105. Xie*, C., Li*, T., Rupp, A., & Jiao, H. (2013, April). *Posterior predictive model checking for dichotomous item response theory models with upper asymptote effects*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
106. Xie*, C., Lissitz, R., Jiao, H., Kang*, Y., & Li*, M (2013, April). *Accounting for team-teaching in value-added modeling of teacher effectiveness: a real data analysis*. Paper presented at the annual meeting of the American Educational Research Association, Division D 2013 In-Progress Research Gala, San Francisco, CA.
107. Jiao, H., Macready, G., & Johnson, M. (2012, July). *A four-parameter mixture Item Response Theory model*. Paper presented at the Annual Meeting of the Psychometric Society. Lincoln, Nebraska.
108. van Wie*, A., Jiao, H., & Luo*, Y. (2012, July). *A four-level IRT for simultaneous evaluation of student, teacher, and school effects*. Paper presented at the Annual Meeting of the Psychometric Society. Lincoln, Nebraska.
109. Luo*, Y., Jiao, H., & van Wie*, A. (2012, July). *A four-level three-parameter IRT*. Paper presented at the Annual Meeting of the Psychometric Society. Lincoln, Nebraska.
110. Chen*, Y. F., & Jiao, H. (2012, July). *Does model misspecification lead to spurious latent classes in the population?* Paper presented at the Annual Meeting of the Psychometric Society. Lincoln, Nebraska.
111. Chen*, Y. F., & Jiao, H. (2012, April). *The impact of missing responses on parameter estimation and classification accuracy in a mixture Rasch model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Vancouver, Canada.
112. Xie*, C., & Jiao, H. (2012, April). *A four-parameter multidimensional item response theory model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Vancouver, Canada.
113. Cho*, Y., Jiao, H., & Macready, G. (2012, April). *Simultaneous effects of different item discrimination profiles and item difficulty profiles in mixture 2PL models.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Vancouver, Canada.
114. Cho*, Y., Jiao, H., & Macready, G. (2012, April). *Assessing the effects of different item parameter profiles in mixture Rasch models.* Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, Canada.
115. Chen*, Y. F., & Jiao, H. (2012, April). *Detection of aberrant respondents based on the mixture Rasch model.* Paper presented at the 18th International Objective Measurement Workshop. Vancouver, Canada.
116. Zhu*, X., & Jiao, H. (2012, April). The testlet effect in vertical scaling. Paper presented at the 18th International Objective Measurement Workshop. Vancouver, Canada.
117. Jiao, H., Macready, G., Zhu, J., & An*, W. (2011). *A modified three-parameter logistic item response theory with varying upper asymptote effects*. Paper presented at the Annual Meeting of the Psychometric Society. Hong Kong, China.
118. Jiao, H., Macready, G., Liu*, J., & Cho*, Y. (2011, April). *A mixture Rasch model based computerized classification test*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, New Orleans, LA.
119. Jiao, H., Lissitz, R., & Zhu*, X. (2011, April). *Constructing a common scale in a testing program to model growth: Joint consideration of vertical scaling and horizontal equating.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

120. Jiao, H., Mislevy, R., & Zhang*, Y. (2011, April). A *general framework for clustering effects in IRT modeling*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
121. Jiao, H., von Davier, M., Kamata, A., & Chen*, Y-F. (2011, April). *A multilevel Rasch mixture testlet model*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
122. Liu*, J., & Jiao, H. (2011, April). *A comparison of estimation methods for an explanatory IRT model with person covariates in generalized (non)linear mixed model framework*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, New Orleans, LA.
123. Lu*, R., & Jiao, H. (2011, April). *Modeling local item dependence in multistage tests*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, New Orleans, LA.
124. Chen*, Y-F., & Jiao, H. (2011, April). *Explanation of latent differential item functioning based on a mixture Rasch model: characterizing latent classes with the inclusion of background and cognitive-related covariates*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, New Orleans, LA.
125. Patarapichayatham*, C., Kamata, A., & Jiao, H. (2011, April). *Evaluation of the ability estimates under the bi-factor testlet model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, New Orleans, LA.
126. Jiao, H., Kamata, A., & Binici, S. (2010, July). *The effects of ignoring item and person clustering on ability estimation and proficiency classification across years*. Paper presented at the annual conference of the Psychometric Society. Athens, GA.
127. Choi*, Y., & Jiao, H. (2010, July). *The effects of model misspecification on the identification of latent classes in the mixture Item Response Theory Models*. Paper presented at the International Meeting of the Psychometric Society. Athens, GA.
128. Cho*, Y., von Davier, M., Jiao, H., & Macready, G. (2010, July). *A comparison of classification consistency obtained with unidimensional IRT models and mixture generalized diagnostic models*. Paper presented at the International Meeting of the Psychometric Society. Athens, GA.
129. Liu*, M. & Jiao, H. (2010, April). *Comparing estimation methods for mixture Rasch model*. Paper presented at the 15th International Objective Measurement Workshop meeting, Denver, CO.
130. Jiao, H., & von Davier, M. (2010, April). *Parameter estimation of the Rasch mixture testlet model using the marginal maximum likelihood method*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver, CO.
131. Jiao, H., Kamata, A., Wang, S., & Jin, Y. (2010, April). *Simultaneous modeling of item and person dependence using multilevel Rasch measurement model*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver, CO.
132. Jiao, H., von Davier, M., & Wang, S.(2010, April). *Polytomous mixture Rasch testlet model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
133. Jiao, H., Lissitz, B., Macready, G., Wang, S., & Liang*, S. (2010, April). *Exploring using the Mixture Rasch Model for standard setting*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
134. Li*, Y., & Jiao, H. (2010, April). *Multilevel polytomous testlet model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.
135. Li*, Y., Jiao, H., & Lissitz, B. (2010, April). *Investigation of content clustering in large-*

scale science assessments using Rasch multidimensional IRT and testlet models. Paper presented at the NCME Graduate Student Poster Session, Denver, CO.

136. Lu*, R. & Jiao, H. (2010, April). *The effects of LID on multistage CAT*. Paper presented at the National Council on Measurement in Education, Denver, CO.

137. Wang, S., Jiao, H., & Jin, Y. (2010, April). *Effect of ignoring hierarchical data structures on accuracy of vertical scaling: A mixed-effects Rasch Model approach*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.

138. Wang, S. & Jiao, H. (2010, April). *Modeling LID in science assessments*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Denver, CO.

139. Jiao, H., Wang, S., & Lu*, R. (2009, April). *Mixture Rasch model for dichotomously scored testlet-based assessments*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.

140. Lu*, R., & Jiao, H. (2009, April). *Detecting DIF using mixture Rasch model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.

141. Wang, S., & Jiao, H. (2009, April). *Exploring relationship between static and dynamic vertical scaling from cross-section and longitudinal design perspective*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Diego, CA.

142. Jiao, H., & Wang, S., (2009, April). *The effects of anchor item selection on IRT true score equating with nonequivalent-group anchor-test design*. Paper accepted at the Annual Meeting of the American Educational Research Association, San Diego, CA.

143. Jiao, H., Wang, S., Wan, L., & Lu*, R. (2009, April). *Investigation of local item dependence in scenario-based science assessments*. Paper accepted at the Annual Meeting of the American Educational Research Association, San Diego, CA.

144. Wang, S., & Jiao, H. (2009, April). *A longitudinal study of achievement gap: Gender and ethnicity difference in reading and mathematics progress*. Paper accepted at the Annual Meeting of the American Educational Research Association, San Diego, CA.

145. Jiao, H., Wang, S., & Binici, S. (2008, November). *Applications of testlet models in investigation of content clustering in large-scale science assessments*. Paper presented at the Annual Meeting of the Florida Educational Research Association, FL.

146. Jiao, H., & Wang, S. (2008, March). *Construct equivalence for vertically scaled science assessment*. Paper presented at the Annual Meeting of the American Educational Research Association, New York City, NY.

147. Jiao, H., Wang, S., & He*, W. (2008, March). *The sensitivity of Yen's Q_3 statistics in detecting local item dependence.* Paper presented at the Annual Meeting of the American Educational Research Association, New York City, NY.

148. Jiao, H., Wang, S., & He*, W. (2008, March). *Comparison of estimation methods of one- parameter testlet model.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, New York City, NY.

149. Wang, S., & Jiao, H. (2008, March). *Empirical evidence of construct equivalence of vertical scale across grades in K-12 large-scale standardized reading assessments.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, New York City, NY.

150. Wang, S., & Jiao, H. (2008, March). *Does large-scale standardized test violate the unidimensionality across grades? An empirical study of construct invariance of vertical scale of mathematics test.* Paper presented at the Annual Meeting of the American Educational Research Association, New York City, NY.

151. Wang, S., & Jiao, H. (2008, June). *Validity of accommodated state assessments*. Paper presented at the National Conference of the Large-scale Assessment, Orlando, FL.

152. Jiao, H., Wang, S., & Binici, S. (2007, November). *Investigating the comparability between online and paper-and-pencil versions of large-scale high school exit examinations*. Paper presented at the Annual Meeting of the Florida Educational Research Association, Tampa, FL.

153. Wang, S., Jiao, H., & Young, M. J. (2007, November). *Effectiveness of using Stanford English Language Proficiency Test to identify English Language Learners*. Paper presented at the Annual Meeting of the Florida Educational Research Association, Tampa, FL.

154. Jiao, H., & Wang, S. (2007, April). *The effects of the selection of vertical linking items on modeling student growth*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.

155. Jiao, H., & Wang, S. (2007, April). *The choice of vertical linking items on vertical scaling*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

156. Jiao, H., & Wang, S. (2007, June). *Validity of assessing limited English proficiency student in state assessment programs*. Paper presented at the National Conference of the Large-scale Assessment, Nashville, TN.

157. He*, W., Wang, S., & Jiao, H. (2007, April). *Robustness of the SPRT procedure in CMT when local item independence assumption is violated*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.

158. Wang, S., Jiao, H., Young, M., Olson, J., & Brooks, T. (2007, April). *A meta-analysis of testing mode effects in K-12 reading assessments*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

159. Wang, S., & Jiao, H. (2007, April). *Construct validity and measurement invariance of large- scale standardized reading and mathematics tests under disability and LEP accommodations in K-12 education*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

160. Wang, S., Young, M., Brooks, T., Jiao, H., & Skoglund, G. (2007, April). *A Comparison of computer-automated and human scoring methods for a large scale state-wide writing assessment in K-12 education*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.

161. Jiao, H., & Wang, S. (2006, June). *Comparison of vertical linking designs*. Paper presented at the National Conference of the Large-scale Assessment, San Francisco, CA.

162. Jiao, H., Wang, S., Kamata, A., & Miyazaki, Y. (2006, April). *An investigation of local item dependence using multilevel testlet model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Francisco, CA.

163. Jiao, H., Wang, S., Yi, Q., & Vukmirovic, Z. (2006, April). *The equivalence of the computer- based and paper-and-pencil versions of a large-scale diagnostic reading test*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

164. Lau, A. C., Jiao, H., & Lam, W. (2006, April). *A simulation study to compare pattern scoring and number-correct scoring with 3PL-IRT model.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, San Francisco, CA.

165. Jiao, H., Wang, S., & Vukmirovic, Z. (2006, April). *Investigation of local item dependence in scenario-based science assessment*. Paper presented at the 13th International Objective Measurement Workshop, San Francisco, CA.

166. Wang, S., Jiao, H., Young, M, & Jin, Y. (2006, April). *The effects of linking designs in*

vertical scaling on the growth patterns of student achievement. Paper presented at the 13th International Objective Measurement Workshop, San Francisco, CA.

167. Wang, S., Jiao, H., & Young, M. (2006, April). *The robustness of unidimensional Rasch Measurement Model to multidimensional data in vertical scaling*. Paper presented at the 13th International Objective Measurement Workshop, San Francisco, CA.

168. Wang, S. & Jiao, H. (2005, June). *Cost-benefits of using computerized adaptive test for large- scale state assessment*. In the session of "Technical and Policy Issues in Using Computerized Adaptive Tests in State Assessments: Promises and Perils". Paper presented at the National Conference of the Large-scale Assessment. San Antonio, TX.

169. Jiao, H., Ro, S., Vukmirovic, Z., & Wang, S. (2005, April). *A comparison of different designs for calibrating mixed format items in a stand-alone field test*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

170. Vukmirovic, Z., Jiao, H., & Turhan, A. (2005, April). *A comparison among different methods used to establish a common metric for field-test items*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

171. Wang, S., Jiao, H., & Severance, N. (2005, April). *An investigation of growth patterns of student achievement using unidimensional and multidimensional vertical scale methods*. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Montreal, Canada.

172. Wang, S., Jiao, H., & Brooks, T. (2005, April). *Construct equivalence between customized and original standardized reading comprehension tests*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

173. Jiao, H., & Lau, A. (2004, August). *Mixing linear and adaptive algorithms in computerized classification test*. Paper presented at the 28th International Congress of Psychology. Beijing, China.

174. Jiao, H., & Wang, S., & Vukmirovic, Z. (2004, August). *The effects of random sampling on the Mantel Statistics*. Paper presented at the 28th International Congress of Psychology. Beijing, China.

175. Jiao, H., & Wang, S., & Vukmirovic, Z. (2004, August). *Consistency of using different matching variables in detecting Differential Item Functioning*. Paper presented at the 28th International Congress of Psychology. Beijing, China.

176. Jiao, H., Wang, S., Lau, A. C., & Zhang, H. (2004, August). *Comparison of computerized adaptive test and computerized classification test in making dichotomous classification decisions*. Paper presented at the 28th International Congress of Psychology. Beijing, China.

177. Jiao, H., Wang, S., & Lau, A. C. (2004, August). *An investigation of two combination procedures of SPRT for three-category classification decisions in computerized classification test*. Paper presented at the Annual Meeting of American Educational Research Association. San Diego, CA.

178. Lau, A. C., Jiao, H., & Lam, W. (2004, April). *A simulation study to investigate the properties of pattern scoring and number-correct scoring using IRT model*. Paper presented at the Annual Meeting of American Educational Research Association, San Diego, CA.

179. Stephenson, A., & Jiao, H. (2004, April). *Comparison of native and non-native speakers of English on an English language proficiency test*. Paper presented at the Annual Meeting of American Educational Research Association, San Diego, CA.

180. Jiao, H., & Kamata, A. (2003, April). *Model comparisons in the presence of local item dependence.* Paper presented at the Annual Meeting of American Educational Research Association, Chicago, IL.

181. Jiao, H., & Lau, A. C. (2003, April). *The effects of model misfit in computerized classification test.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Chicago, IL.
182. Stephenson, A., & Jiao, H. (2003, April). *Classification of students' English proficiency with Discriminant Analysis*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

Unrefereed National and International Conference Proceedings

1. Man*, K., Jiao, H., Zhan, P., & Huang, C.-Y. (2017, May). *A conditional joint modeling approach for compensatory multidimensional item response model and response times*. Paper presented at the annual meeting of the Modern Modeling Methods Conference, Storrs, Connecticut.
2. Li*, C., Liao*, D., Zou* J., Jiao, H., & Lissitz, R. W. (2016, June). *Investigating the concordance relationship between the MSA and PARCC scores using propensity score matching and extrapolation methods.* Paper presented at the Maryland State Department of Education Data Summit, Ellicott City, MD.
3. Liao*, D., Li*, C., Jiao, H., & Lissitz, R. W. (2016, June). *Investigating the relationship between PARCC test scores and college admission test scores: SAT/ACT/PSAT.* Paper presented at the Maryland State Department of Education Data Summit, Ellicott City, MD.
4. Zou*, J., Jiao, H., Liao*, D., Li*, C., & Lissitz, R. W. (2016, June) *Linking HSA to the PARCC consortium test.* Paper presented at the Maryland State Department of Education Data Summit, Ellicott City, MD.
5. Man*, K., & Jiao, H. (2016, May). *Modeling directional local item dependence*. Paper presented at the Modern Modeling Methods Conference, University of Connecticut, Storrs, CT.
6. Jiao, H. & Yao, L. (2014, August). *Estimation of noncompensatory multidimensional Rasch model*. Paper presented at the Meeting of the Pacific-Rim Objective Measurement Symposium. Guangzhou, China.
7. Luo, Y., & Jiao, H. (2014, May). *Estimation methods for four-level Rasch model*. Poster presented at the conference on the Frontiers of Hierarchical Modeling in Observational Studies, Complex Surveys and Big Data. College Park, Maryland.
8. Liao*, D, & Jiao, H. (2014, May). *Polytomous multilevel testlet models with complex sampling designs*. Poster presented at the conference on the Frontiers of Hierarchical Modeling in Observational Studies, Complex Surveys and Big Data. College Park, Maryland.
9. Li*, Y., Jiao, H., & Lissitz, B. (2010, August). *Construct equivalence of a state high-school graduation test with and without accommodations.* Paper presented at the meeting of the International Commission of Testing, Hong Kong, China.

F. CONTRACTS AND GRANTS

Selected External Funding

2020-2025 **Funding agency:** Maryland State Department of Education
Title: Psychometric research and analysis for Maryland state assessment programs.

2022-2023 **Funding agency:** CenterPoint Education Solutions
Title: Assessment design and psychometric analyses for innovative interim assessments.

2021-2026 **Funding agency:** ITPG, Inc.
Title: Psychometric consultation for DXIT and TXIT.

2021 **Funding agency:** Classic Learning Test
Title: Norming Study of CLT8.

2020 **Funding agency:** University of Maryland Applied Research Lab for Intelligence & Security
Title: Development of United States Air Force Computer Language Proficiency Test.

2015-2020 **Funding agency:** Maryland State Department of Education
Title: Psychometric research and analysis for Maryland state assessment programs.

2019 **Funding agency:** National Board of Osteopathic Medical Examiners, Inc.
Title: Psychometric consultation for COMLEX-USA.

2019 **Funding agency:** Classic Learning Test
Title: Norming Study of CLT10.

2018-2019 **Funding agency:** Management Systems International
Title: Linking assessments to a global standard with social moderation.

2017-2018 **Funding agency:** American Institute for Research
Title: Using log files to identify sequential patterns in the PIAAC problem solving in technology-rich environment by U. S. adults' employment status.

2017 **Funding agency:** Delaware State Department of Education
Title: Standard setting for SAT writing

2016 **Funding agency:** The Council of Chief State School Officers
Title: Applying sampling weights in 2016-2017 Kindergarten Readiness Assessment for Maryland state.

2015-2016 **Funding agency:** The Partnership for Assessment of Readiness for College and Careers, Inc.
Title: Investigating New York City students' performance on and experience with the 2015 PARCC pilot tests.

2014-2015 **Funding agency:** Management Systems International
Title: Alignment study for University Readiness Test in Egypt.

2014-2015 **Funding agency:** Educational Records Bureau
Title: Psychometric analysis for Comprehensive Testing Program 4.

2014-2015 **Funding agency:** NCS Pearson, Inc.
Title: Multilevel modeling of rater effects

2014-2015 **Funding agency:** National Council on Measurement in Education
Title: A multilevel testlet model for mixed-format tests

2013-2014 **Funding agency:** NCS Pearson, Inc.
Title: Bayesian estimation of item response theory models and multilevel item response theory models

2010-2014 **Funding agency:** American Educational Research Association/National Science Foundation #DRL-0941014
Title: Latent differential item functioning analysis for testlet-based assessments

2010-2015 **Funding agency:** Maryland State Department of Education
CO-PI with PI: Robert Lissitz
Title: Psychometric research and analysis for Maryland state assessment programs.

2009-2011 **Funding agency:** National Council of State Boards of Nursing, Joint Research Committee
CO-PI with PI: Kathleen C. Haynie
Title: A Partial Credit Modeling Study of NCLEX Innovative Items

2003 **Funding agency:** University of Michigan, Ann Arbor
Title: Evaluating the dimensionality of the Michigan English Language Assessment Battery

Internal Funding

2008-2009 **Funding agency:** SPARC: Support Program for Advancing Research and Collaboration, College of Education, University of Maryland, College Park
Title: Mixture Rasch Model for Dichotomously Scored Testlet Based Assessments

2008 **Funding agency:** The General Research Board (GRB), University of Maryland, GRB
Title: The Effects of Anchor Item Selection on Item Response Theory True Score Equating in Nonequivalent-group Anchor-test Equating Design

Centers for Research, Scholarship and Creative Activities

Conference Organized (through center)

1. Conference Co-Organizer, *Machine learning, natural language processing, and psychometrics* (2022). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
2. Conference Co-Organizer, *The international meeting for the psychometric society* (2020). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
3. Conference Co-Organizer, *Assessment on learning and instruction* (2019). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
4. Conference Co-Organizer, *Innovative psychometric modeling* (2018). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
5. Conference Co-Organizer, *Applications of artificial intelligence to assessment* (2017). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
6. Conference Co-Organizer, *Data analytics and psychometrics: Informing assessment practices* (2016). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
7. Conference Co-Organizer, *Test fairness in the new generation of large-scale assessment* (2015). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
8. Conference Co-Organizer, *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective* (2014). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
9. Conference Co-Organizer, *The next generation of testing: Common core standards, Smarter-Balanced, PARCC, and the nationwide testing movement* (2013). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
10. Conference Co-Organizer, *Value added modeling and growth modeling with particular application to teacher and school effectiveness* (2012). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.
11. Conference Co-Organizer, *Computers and their impact on state assessment: Recent history and predictions for the future* (2011). Maryland Assessment Research Center (MARC), University of Maryland, College Park, MD.

G. FELLOWSHIPS, PRIZES, AND AWARDS

2024	Chandramani Lnu, Hong Jiao, Nan Zhang: Silver Medal (Top 4%) in the 2024 Kaggle - Linking Writing Processes to Writing Quality Competition
2024	Chandramani Lnu, Nan Zhang, Dr. Hong Jiao: Bronze Medal (Top 9.8%) in the 2024 Kaggle - LLM-Detect AI Generated Text (Essays) Competition
2023	NCME Annual Award for Exceptional Achievement in Educational Measurement by National Council on Measurement in Education.
2023	Chandramani Lnu, Hong Jiao, Nan Zhang: Silver Medal (Top 4%) in the 2023 Kaggle - LLM Science Exam Competition
2014	The Bradley Hanson Award for Contributions to Educational Measurement by National Council on Measurement in Education.
2011	The International Initiative Fellows Program at the College of Education, University of Maryland, College Park, MD.
2010	The American Educational Research Association Research Grant sponsored by the National Science Foundation.
2009	The GATE Fellows Program (Teaching Innovation Award) at the College of Education, University of Maryland, College Park, MD.
2008	The *SPARC*: Support Program for Advancing Research and Collaboration Award, College of Education, University of Maryland, College Park, MD.
2008	The General Research Board (GRB) Summer Award, University of Maryland, College Park, MD.
2005	The Revere Award for Customer Focus, Harcourt Assessment, Inc., San Antonio, TX
2003	The Spaan Fellowship, Funded research in Second or Foreign Language Testing, University of Michigan, Ann Arbor , MI.
2002	The Lenke Psychometric Fellowship, Harcourt Educational Measurement, San Antonio, TX.
2002	The Academic Conference Travel Award, Florida State University, Tallahassee, FL.
1998-2001	University Fellowship, Florida State University, Tallahassee, FL.
1999-2000	Graduate Assistantship, Florida State University, Tallahassee, FL.
1999	Teaching Assistantship, Florida State University, Tallahassee, FL.
1996	Liu Yonglin Excellent Teaching Prize, Shanghai Jiao Tong University, Shanghai, China.
1996	Star Teacher, Shanghai Jiao Tong University, Shanghai, China.
1993	Teaching Excellence Award, Shanghai Jiao Tong University, Shanghai, China.
1992	The Excellent Graduate Award of Shanghai City, Shanghai Municipality, China.

H. EDITORSHIPS, EDITORIAL BOARDS, AND REVIEWING ACTIVITIES FOR JOURNALS AND OTHER LEARNING PUBLICATIONS

Editorships

2026-current	**Associate Editor** for *Journal of Educational Measurement*
2021-current	**Associate Editor** for *Large-Scale Assessment in Education*
2025-current	**Associate Editor** for *Quantitative Psychology and Measurement*, *Frontiers in Psychology*
2024-2026	**Guest Editor** for special issue on "Data Augmentation in Computational Psychometrics", *Journal of Educational Measurement*
2017-2025	**Review Editor** for *Quantitative Psychology and Measurement*, *Frontiers in*

	Psychology
2022-2023	**Guest Editor** for special issue 2 on "Machine Learning and Deep Learning in Assessment", *Psychological Test and Assessment Modeling*
2021-2022	**Guest Editor** for special issue 1 on "Machine Learning and Deep Learning in Assessment", *Psychological Test and Assessment Modeling*
2022-2023	**Co-editor** for the book: *Machine Learning, Natural Language Processing and Psychometrics*. Charlotte, NC: Information Age Publisher
2019-2020	**Guest Associate Editor** for the Research Topic on Cognitive diagnostic assessment for learning, *Quantitative Psychology and Measurement*, *Frontiers in Psychology*
2017-2019	**Guest Associate Editor** for the Research Topic on Process Data in Educational and Psychological Measurement, *Quantitative Psychology and Measurement*, *Frontiers in Psychology*
2017-2018	**Co-editor** for the book: *Applications of artificial intelligence to assessment*. Charlotte, NC: Information Age Publisher
2017-2018	**Co-editor** for the book: *Data analytics and psychometrics: Informing assessment practices*. Charlotte, NC: Information Age Publisher
2016-2017	**Co-editor** for the book: *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective*. Charlotte, NC: Information Age Publisher
2016-2017	**Guest editor** for the Special Issue on Applied Educational Measurement of Pensamjento educativo, *Journal of Latin-American Education Research*
2016-2017	**Co-editor** for the book: *Test fairness in the new generation of large-scale assessment*. Charlotte, NC: Information Age Publisher
2016-2017	**Co-editor** for the book: *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective*. Charlotte, NC: Information Age Publisher
2015	**Co-editor** for the book: *The next generation of testing: Common core standards, Smarter-Balanced, PARCC, and the nationwide testing movement*. Charlotte, NC: Information Age Publisher
2014	**Co-editor** for the book: *Value added modeling and growth modeling with particular application to teacher and school effectiveness*. Charlotte, NC: Information Age Publisher
2012	**Co-editor** for the book: *Computers and their impact on state assessment: Recent history and predictions for the future*. Charlotte, NC: Information Age Publisher

Editorial Boards

2019 –current	Editorial Board of the Springer book series*: Methodology of Educational Measurement and Assessment.*
2019 –current	Editorial Board for *Measurement: Interdisciplinary Research and Perspectives*.
2019 –2025	Editorial Board for *Methods in Psychology*.
2019 –2021	Editorial Board for *Educational Measurement: Issues and Practice*.
2010 –2011	Editorial Board for the *American Educational Research Journal* - Teaching, Learning, and Human Development section.
2012 –2013	Editorial Board for *Psychology*.
2015, 2016	Article editor for Sage Open

Reviewer for Professional Journals

British Journal of Mathematical and Statistical Psychology
Journal of Educational Measurement Applied Psychological Measurement
Educational and Psychological Measurement
Psychometrika
Psychological Methods
Behavior Research Methods
Multivariate Behavioral Research
Journal of Educational and Behavioral Statistics
International Journal of Testing
Educational Assessment
International Journal of Quantitative Research in Education
Organizational Research Methods
Journal of American Educational Research
Frontiers in Quantitative Psychology and Measurement
Writing Systems Research
Alberta Journal of Educational Research

Reviewer for Book Chapters

The Routledge International Handbook of Automated Essay Evaluation by Mark D. Shermis and Joshua Wilson
Handbook of Diagnostic Classification Models edited by Matthias von Davier and Youngsun Lee
Improving Large-Scale Education Assessment: Theory, Issues, and Practice edited by Marielle Simon, Kadriye Ercikan, and Michel Rousseau, published by Routledge.
The Companion to Language Assessments edited by Antony J. Kunnan, published by John Wiley & Sons, Inc.

Reviewer for National and International Conferences

American Educational Research Association (AERA)
Division D, Special Interest Group for Rasch Measurement Model, Special Interest Group for Hierarchical Linear Modeling, Special Interest Group for Research on the Inclusions of Students with Disabilities and Limited English Proficient Students in Large-scale Assessments, Special Interest Group for Licensure and Certification Tests.
National Council on Measurement in Education (NCME)
Psychometric Society
International Objective Measurement Workshop
Florida Educational Research Association (FERA)
Southwest Educational Research Association

Tenure Reviewing Activities

September 2025	External reviewer for an Associate Professor (George Mason University)
September 2025	External reviewer for an Associate Professor (University of Kansas)
August 2025	External reviewer for an Associate Professor (University of Macau)
September 2025	External reviewer for an Associate Professor (University of Oregon)

August 2024	External reviewer for an Assistant Professor (University of Massachusetts, Amherst)
August 2024	External reviewer for an Associate Professor (University of Alabama)
August 2024	External reviewer for an Assistant Professor (University of Illinois Urbana-Champaign)
July 2024	External reviewer for an Assistant Professor (University of Illinois Urbana-Champaign)
August 2023	External reviewer for an Associate Professor (University of Alberta)
August 2023	External reviewer for an Assistant Professor (University of Texas, Austin)
August 2022	External reviewer for an Assistant Professor (Washington State University)
August 2022	External reviewer for an Assistant Professor (University of Massachusetts Lowell)
August 2021	External reviewer for an Associate (Purdue University)
August 2020	External reviewer for an Assistant Professor mid-year review before tenure (University of Miami)
May 2019	External reviewer for an Assistant Professor promoted to Associate Professor (Arizona State University)
Nov. 2017	External reviewer for an Assistant Professor promoted to Associate Professor (University of Maryland, Baltimore County)
April 2016	External reviewer for an Assistant Professor promoted to Associate Professor (University of Miami)

Grant and Fellowship Reviewing Activities

2025	Peer Review of State Assessment Programs, U.S. Department of Education
2024	Peer Review of State Assessment Programs, U.S. Department of Education
2023	Peer Review of State Assessment Programs, U.S. Department of Education
2023	Review a proposal for the Dutch Research Council
2023	Review panel for Institute of Education Sciences: Research training programs in the education sciences
2021	Review panel for Institute of Education Sciences: NAEP process data
2019, 2018, 2017, 2016, 2014	Review panel for National Science Foundation: DRK-12 program
2014, 2018	Grant Proposal Reviewer for National Science Foundation
2013-2017	Reviewer for the Chinese Government Award for Outstanding Self-financed Students Abroad

Membership in Professional Organizations

National Council on Measurement in Education (NCME)
American Educational Research Association (AERA)
Psychometric Society (IMPS)

3. TEACHING, MENTORING, AND ADVISING

**Reduced teaching load due to external grant funding provided to Department

A. COURSES TAUGHT IN LAST FIVE YEARS

Graduate Courses

Year(s)	Course Title
Fall 2025	Applied Measurement: Issues and Practices
Spring 2025	Instrumentation
Fall 2024	Applied Measurement: Issues and Practices
Spring 2024	Modern measurement theory
Fall 2023	Applied Measurement: Issues and Practices
Spring 2023	Modern measurement theory
Fall 2022	Applied Measurement: Issues and Practices
Spring 2022	Instrumentation
Fall 2021	Computerized adaptive testing
Spring 2021	On sabbatical
Fall 2020	On sabbatical
Spring 2020	Instrumentation
Fall 2019	Applied Measurement: Issues and Practices
Spring 2019	Instrumentation
Fall 2018	Classification and cognitive diagnosis
Spring 2018	Computerized adaptive testing
Fall 2017	Psychometrics in large-scale assessment
Spring 2017	Instrumentation
Fall 2016	Classification and cognitive diagnosis
Spring 2016	Quantitative methods I
Fall 2015	Psychometrics in large-scale assessment
Spring 2015	Modern measurement theory
Fall 2014	On sabbatical

B. COURSES OR CURRICULUM DEVELOPMENT

Year(s)	Course Title
Spring 2018	Computerized adaptive testing
Spring 2017	Instrumentation
Fall 2016	Classification and cognitive diagnosis
Fall 2013	Applied Measurement: Issues and Practices
Spring 2013	Modern measurement theory
2011	Finite Mixture Models in Statistics and Measurement (3 lectures)
Fall 2009	Psychometrics in large-scale assessment
Spring 2008	Quantitative methods II (ANOVA)
Fall 2007	Quantitative methods I (Descriptive and inferential statistics)

C. MANUALS, NOTES, SOFTWARE, WEBPAGES, & OTHER CONTRIBUTIONS TO TEACHING

2007-2019 Course Websites under the Enterprise Learning Management System (ELMS) at the University of Maryland: www.elms.umd.edu
2007-2019 *Notes for each class

*I have created a substantial set of course materials for all of the courses I taught which typically include *Power Point* lecture slides with data-analysis steps and outputs from software packages, computer lab worksheets with sample data sets and guided tasks, homework assignments, projects with real data from large-scale assessments, simulation work, in-class examinations, in-class practice questions, handouts for computer software program training, research projects, and critiques.

A. ADVISING (RESEARCH DIRECTIONS)

Doctoral Advisor and Dissertation Chair

1. Hannah Choi (**chair**), QMMS, University of Maryland, expected to graduate in spring 2030.
2. Chengbin Yin (**chair**), EDMS, University of Maryland, graduated in summer 2022.
3. Xin Qiao (**chair**), EDMS, University of Maryland, graduated in fall 2021.
4. Evan Olson (**chair**), EDMS, University of Maryland, expected to graduate in fall 2020.
5. Manqian Liao (**chair**), EDMS, University of Maryland, expected to graduate in spring 2020.
6. Rosalyn Bryant (**chair**), EDMS, University of Maryland, graduated in spring 2018. Working at District of Columbia Public Schools.
7. Chen Li (**chair**), EDMS, University of Maryland, graduated in spring 2018. Working at Kaplan.
8. Dandan Liao (**chair**), EDMS, University of Maryland, graduated in spring 2018. Working at American Institute for Research.
9. Yuan Zhang (**chair**), EDMS, University of Maryland, graduated in fall 2015. Working at Highmark Health.
10. Tongyun Li (**chair**), EDMS, University of Maryland, graduated in spring 2015. Working at Educational Testing Service.
11. Chao Xie (**chair**), EDMS, University of Maryland, graduated in spring 2014. Working at American Institute for Research.
12. Yong Luo (**chair**), EDMS, University of Maryland, graduated in fall 2013. Will start working at Educational Testing Service.
13. Ying-Fang Chen (**chair**), EDMS, University of Maryland, graduated in fall 2013. Working at University of California, Berkeley.
14. Ru Lu (**chair**), EDMS, University of Maryland, graduated in fall 2010. Working at Educational Testing Service.

Master

1. Sanshiroh Ogawa (**advisor**), QMMS, University of Maryland, spring 2026
2. Sydney Peters (**advisor, 2024**), QMMS, University of Maryland, graduated in spring 2026
3. Chandramani Lnu (**research advisor, 2023-2024**), Computer Science, University of Maryland.
4. Jinglei Ren (**research advisor, 2022**), Human Development, University of Maryland.
5. Manqian Liao (**advisor**), EDMS, University of Maryland, graduated in fall 2017.
6. Heather Trotter (**advisor**), EDMS, University of Maryland, graduated in spring 2015.
7. Dandan Liao (**advisor**), EDMS, University of Maryland, graduated in fall 2015.

8. Tongyun Li (**co-advisor**), EDMS, University of Maryland, graduated in fall 2012.
9. Huili Liu (**advisor**), EDMS, University of Maryland, graduated in spring 2012.
10. Anton Syromyatin (**advisor**), EDMS, University of Maryland, graduated in fall 2011.

Certificate

1. Ming Li (**advisor**), Computer Science, University of Maryland, fall 2025
2. Nan Zhang (**advisor**), Human Development, University of Maryland, fall 2023
3. Sanshiroh Ogawa (**advisor**), Second Language Acquisition, University of Maryland, spring 2023
4. Yazhuo Quan (**advisor**), Second Language Acquisition, University of Maryland, fall 2022

Undergraduate

1. Neil Shah (**research advisor**), Computer Science, University of Maryland, spring 2023

Doctoral Committee

1. Ran Ma (**committee member**), Dr. Namkoong Kang (chair), Communications, University of Maryland, expected to graduate in spring 2026.
2. Ashani Jayasekera (**committee member**), Dr. Laura Stapleton (chair), QMMS, University of Maryland, expected to graduate in spring 2026.
3. Janell Shaleese Joyner (**committee member**), Dr. Katrina Groth (chair), Reliability Engineering, University of Maryland, defended in fall 2025.
4. Brennan Register (**committee member**), Dr. Laura Stapleton (chair), QMMS, University of Maryland, graduated in spring 2025.
5. Feven Daniel Tsehaye (**committee member**), Dr. Hee-Jung Song, Department of Nutrition and Food Science, University of Maryland, graduated in spring 2025.
6. Changsheng Chen (**committee member**), Dr. Wim Van Den Noortgate (chair), EDMS, University of KU Leuven, Belgium.
7. Yishan Ding (**committee member**), Dr. Tracy Sweet (chair), EDMS, University of Maryland, graduated in fall 2023.
8. Kristina Cassiday(**committee member**), Dr. Laura Stapleton (chair), QMMS, University of Maryland, graduated in spring 2023.
9. Semi Yeom (**Committee member**), Dr. John O'Flahavan (chair), TLPL, University of Maryland, graduated in spring 2023.
10. Kyoko Hillman (**committee member**), Dr. M. Long (chair), Second Language Acquisition Program, University of Maryland, graduated in fall 2020.
11. Jordan Prendez (**Committee member**), Dr. Jeffrey Harring (chair), EDMS, University of Maryland, graduated in fall 2020.
12. Yating Zheng (**Committee member**), Dr. Laura Stapleton (chair), EDMS, University of Maryland, graduated in fall 2019.
13. Ji An (**committee member**), Dr. Laura Stapleton (chair), EDMS, University of Maryland, graduated in Fall 2019.
14. Anna Van Wie (**committee member**), Dr. Laura Stapleton (chair), EDMS, University of Maryland, graduated in fall 2019.
15. Yuyun Peng (**Dean's representative**), Dr. Jing Lin (chair), Counseling, Higher Education, Special Education, University of Maryland, graduated in fall 2018.
16. Dongming Zhang (**committee member**), Dr. Ping Wang (chair), Ischool, University of

Maryland, graduated in fall 2018.

17. Shauna Sweet (**committee member**), Dr. Gregory Hancock (chair), EDMS, University of Maryland, graduated in fall 2018.
18. Kari Hansen (**committee member**), Dr. Laura Stapleton (chair), EDMS, University of Maryland, *defended* in summer 2017.
19. Reem Albassam (**committee member**), Dr. David Lei (chair), EDMS, University of Maryland, *defended* in spring 2016.
20. Chin-Fang Weng (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *defended* in fall 2013.
21. Xiaoshu Zhu (**committee member**), Dr. Robert Lissitz (chair), EDMS, University of Maryland, current doctoral candidate, *defended* in spring 2013.
22. Eunyung Chong (**committee member**), Dr. John E. Newhagen (chair), College of Journalism, University of Maryland, *defended* in spring 2012.
23. Ebony Terrell Shockley (**committee member**), Dr. Victoria-Maria MacDonald (chair), CAPS Department, University of Maryland, *defended* in spring 2012.
24. Daisy Rustein (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in winter 2011.
25. Younyoung Choi (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in fall 2011.
26. Jui-Chen Hsu (**committee member**), Dr. Jeff Harring & Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in fall 2011.
27. Nidhi Kohli (**committee member**), Dr. Jeff Harring & Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in summer 2011.
28. Min Liu (**committee member**), Dr. Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in summer 2011.
29. Jessica Mislevy (**committee member**), Dr. Andre Rupp & Jeff Harring (chair), EDMS, University of Maryland, *graduated* in spring 2011.
30. Xiaodong Hou (**committee member**), Dr. Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in summer 2011.
31. Ying Li (**committee member**), Dr. Robert Lissitz (chair), EDMS, University of Maryland, *graduated* in spring 2011.
32. Joyce Wang (**committee member**), Dr. Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in spring 2010.
33. Marc Kroopnick (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in spring 2010.
34. Yunyun Dai (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in winter 2009.
35. Jennifer Hamilton (**committee member**), Dr. Gregory Hancock (chair), EDMS, University of Maryland, *graduated* in summer 2009.
36. Fei-Fei Li (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in spring 2009.
37. Donyang Li (**committee member**), Dr. Robert Mislevy (chair), EDMS, University of Maryland, *graduated* in spring 2009.
38. Yi Cao (**committee member**), Dr. Robert Lissitz (chair), EDMS, University of Maryland, *graduated* in spring 2008.

Mentorship

1. Mentor to Assistant Professor Yang Liu, University of Maryland College Park, 2018-2019
2. Mentor to Assistant Professor Jeffrey Patton, University of Maryland College Park, 2014-2016

Mentoring Visiting Scholars

1. Xingyi Wang, Doctoral Student, Beijing Normal University, China, 5/2025-5/2026
2. Qingshu Xu, Associate Professor, Shandong Jiao Tong University, China, 11/2024-12/2025
3. Su-Pin Hung, Associate Professor, National Cheng Kung University, Taiwan, 3/2024-8/2024
4. Hong-Yu Hung, Professor, National Cheng Kung University, Taiwan, 3/2024-8/2024
5. Guiyu Li, Doctoral Student, East China Normal University, China, 1/2023-1/2024
6. Fangwen Wu, Doctoral Student, East China Normal University, China, 11/2019-5/2021
7. Xie-Feng Lu, Associate Professor, Hunan Normal University, China, 8/2018-7/2019
8. Zhangjing Zhao, The National Institute of Education Sciences, China, 5/2016-11/20217
9. Peida Zhan, Doctoral Student, Beijing Normal University, China, 9/2016-9/20217
10. Chunmei Fan, Associate Professor, Beijing Post and Communications University, China, 8/2015-8/2016
11. Chunxia Huang, Associate Professor, Beijing Language and Culture University, China, 10/2009-10/2010

Awards Students Won under My Mentorship

1. Chandramani Lnu, Silver Medal (Top 4%) in the 2024 Kaggle - Linking Writing Processes to Writing Quality Competition
2. Chandramani Lnu, Silver Medal (Top 4%) in the 2023 Kaggle - LLM Science Exam Competition
3. Dandan Liao, 2021 NCME Brenda Loyd Outstanding Dissertation Award, 6/2021
4. Xin Qiao, AERA Division D Research Grant for Graduate Students, 5/2021-9/2021

Professional and Extension Education

Workshops

1. Jiao, H., Luo, Y., Man*, K., & Liao*, D. (2017, April). *Bayesian estimation of item response theory model parameters using OpenBUGS and Stan*. Pre-conference training session at the Annual Meeting of the National Council on Measurement in Education. San Antonio, Texas.

4. SERVICE

A. PROFESSIONAL

Work with National and International Committees

2025 – 2026	**Chair**, the NCME Publications committee
2024 – 2025	**Co-Chair**, the NCME Publications committee
2025-2026	**Judge**, eAA (e-Assessment Association) International e-Assessment Awards, AI in Assessment

2022 – 2025	**Committee member**, the NCME Bradley Hanson Award for Contributions to Educational Measurement
2024	**Organizing committee**, the ATP EdTech & Computational Psychometrics Summit
2024	**Judge**, eAA (e-Assessment Association) International e-Assessment Awards 2024, Best Formative Assessment Project
2023 – 2024	**Committee member**, the NCME Publications committee
2023	**Committee member**, the Program Committee, the 2023 International Meeting of the Psychometric Society
2022 – 2023	**Chair, Organizing Committee** for 2023 International Meeting of Psychometric Society
2020 – 2021	**Committee member**, the Technical Advisory Committee, Pharmacy Technician Certification Board (PTCB)
2020 – 2021	**Chair**, the NCME Brenda H. Loyd Dissertation Award Committee
2020	**Committee member**, the Research Advisory Committee, Prince George Public School, Maryland
2015 – 2020	**Chair**, the Technical Advisory Committee, Maryland State Department of Education
2019 – 2021	**Chair, Organizing Committee** for 2021 International Meeting of Psychometric Society
2018 – 2020	**Chair Elected**, American Educational Research Association, Rasch Special Interest Group
2018 – 2019	**Chair**, American Educational Research Association, Division D2 program
2015 – 2018	**Committee member**, the Research and Psychometric Committee, PARCC consortium test
2017 – 2018	**Co-Chair**, American Educational Research Association, Division D2 program
2017 – 2019	**Committee member**, National Council on Measurement in Education Outreach and Partnership Committee
2017 – 2018	**Committee member**, the Program Committee, the International Objective Measurement Workshop
2015 – 2016	**Committee member**, the Program Committee, the International Objective Measurement Workshop
2013 – 2016	**Committee member**, the NCME annual awards committee
2012 – 2014	**Committee member**, the Program Committee, the International Meeting of Psychometric Society
2012 – 2013	**Committee member**, the Early Career Award committee, AERA-Division D
2011 – 2012	**Committee member**, the Significant Contribution for Educational Measurement and Research Methodology committee, AERA-Division D
2010 – 2011	**Chair**, the Significant Contribution for Educational Measurement and Research Methodology committee, AERA-Division D
2009 – 2010	**Co-chair**, the Significant Contribution for Educational Measurement and Research Methodology committee, AERA-Division D
Oct. 2014	**Session Chair** for the annual meeting of the International Association of Computerized Adaptive Testing
2008 – 2011	**Session Chair** for the annual meeting of the National Council on Measurement in Education

B. CAMPUS SERVICE

Department Service

2025 – 2026	**Chair,** the Graduate Student Admission Committee to the QMMS program
2025 – 2026	**Member,** the Faculty Annual Review Committee for the HDQM Department
2024 – 2025	**Chair,** the Department Awards and Fellowship Committee to the HDQM department
2024 – 2026	**Member,** the Graduate Student Admission Committee to the QMMS program
2023 – 2024	**Chair,** the Examination Committee for the EDMS program Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam
2022 – 2023	**Member,** the Faculty Annual Review Committee for the HDQM Department
2021 – 2023	**Member,** the Department Awards and Fellowship Committee to the HDQM department
2021 – 2021	**Member,** the EDMS program APT review committee
2020 – 2022	**Member,** the Examination Committee for the EDMS program Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam
2019 – 2020	**Chair,** the Department Awards and Fellowship Committee to the HDQM department
2019 – 2020	**Chair,** the Graduate Student Admission Committee to the EDMS program
2018 – 2019	**Member,** the Graduate Student Admission Committee to the EDMS program
2017 – 2018	**Member,** the Department Fellowship Committee to the HDQM department
2017 – 2018	**Chair,** the Examination Committee for the EDMS program Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam
2017 – 2018	**Member,** the Merit Review Committee for the HDQM Department
2017 – 2018	**Co-Organizer,** the Measurement and Statistics Monday Symposium
2016 – 2017	**Member,** the Examination Committee for the EDMS program Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam
2016 – 2017	**Co-Organizer,** the Measurement and Statistics Monday Symposium
2016 – 2017	**Member,** the Department Fellowship Committee to the HDQM department
2015 –2016	**Member,** the Search Committee for Assistant Professor in the program of Measurement, Statistics and Evaluation
2014 – 2016	**Member,** the Graduate Student Admission Committee to the EDMS program
2013 – 2014	**Chair,** the Graduate Student Admission Committee to the EDMS program
2014 –2015	**Member,** the Search Committee for Assistant/Associate Professor in the program of Measurement, Statistics and Evaluation
2013 –2014	**Member,** the Search Committee for Assistant Professor in the program of Educational Psychology and Developmental Science
2012 – 2013	**Chair,** the Examination Committee for Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam
2012 – 2013	**Organizer,** the Measurement and Statistics Monday Symposium
2011 –2012	**Member,** the Search Committee for Chair of Department of Human Development and Quantitative Methodology.
2010 –2011	**Member,** the Search Committee for Assistant/Associate Professor in the

Department of Measurement, Statistics and Evaluation

2010 – 2012 **Member,** the Examination Committee for Master Comprehensive Exam, Doctoral Preliminary Exam, and Doctoral Comprehensive Exam

2009 – 2010 **Chair,** the Graduate Student Admission Committee

2007 – 2009 **Member,** the Graduate Student Admission Committee

College Service

2019 **Member**, **Awards Committee** of College of Education

2018 – 2019 **Member**, **Senate Steering Committee** of College of Education

2017 – 2019 **Senator** of College of Education

2017 – 2018 **Member**, **College Partnership committee**

2018 **Member**, **Awards Committee,** College of Education

2008 – 2011 **Member, the International Committee**, College of Education

2009 **Member**, **Awards Committee**, College of Education

2009 – 2010 **Member, Steering Committee of the College Senate**

2008 – 2010 **Senator** of College of Education

University Service

2024 – 2025 **Member,** Search Committee**,** the Artificial Intelligence Interdisciplinary Institute at Maryland (AIM)

2022 – 2023 **Member,** University AEP/PTK Promotion Committee

2019 – 2020 **Member,** University Senate