kscalise@uoregon.edu
5267 University of Oregon
Eugene, OR 97403

EMPLOYMENT:

2022-Current: Professor, University of Oregon, Department of Education Studies and School Psychology Program.

2020-2021: Associate Dean for Research, College of Education, University of Oregon (UO).

2018-2021: Professor, University of Oregon, Department of Educational Methodology, Policy and Leadership.

2014-2019: Director, U.S. National Assessment of Educational Progress (NAEP) Science, ETS.

2011-2014 & 2015-2017: Associate Professor, University of Oregon, Department of Educational Methodology, Policy and Leadership.

2012-13 (Sabbatical): Visiting Research Scientist, Columbia University, Neuroscience Department (cognition and neuroscience), and 2012-13: Visiting Scholar, Teachers College, Columbia University, Department of Communication, Computing & Technology, 2012-2013.

2005-2011: Assistant Professor, University of Oregon, Department of Educational Methodology, Policy and Leadership (previously Department of Educational Leadership), 2005-10.

Also see previous professional experience prior to Ph.D. at the end of this document.

RESEARCH INTERESTS:
Dr. Kathleen Scalise employs data science at the intersection with measurement and assessment for applied and theoretical research, including for learning in digital social networks and science/engineering education, as well as for network analyses of leadership and collaboration. She has extensive research in the areas of learning, e-learning, large-scale assessment, and instructional technology in the context of STEM education (science, technology, engineering, and mathematics) and also in emergent language, second language acquisition, digital literacy, social collaboration, leadership, and 21st century skills. In addition to data analytics, she is interested in new models for dynamic delivery of differentiated content to support the needs of all learners, innovative item types, and equity, opportunity and access in education.

EDUCATION:
Ph.D., UC Berkeley, Area of Quantitative Measurement (Mark Wilson group), Graduate School of Education, December 2004.

M.A., UC Berkeley, Policy, Organization, Measurement and Evaluation, Quantitative Measurement, Disciplinary focus in Cognition and Development, Grad. School of Educ., 2004.

B.A., UC Berkeley, Biochemistry, 1982.

PEER-REVIEWED JOURNAL PAPERS:

Scalise, K., Wilson, M., and Gochyyev, P. (invited, in preparation, 2022). Analytic elements in metrolytics, *British Journal of Educational Technology*.

Thalmayer, A. G., Marshall, J., and Scalise, K, (submitted, in review, 2022). The Cascades Mental Health Assessment: Validation of an Efficient Screening Inventory, *Assessment*.

30. Scalise, K., Wilson, M., Gochyyev, P. (2021). A taxonomy of critical dimensions at the intersection of learning analytics and educational measurement, *Frontiers in Education*, 6: 656525, Section: Hypothesis and Theory, doi: 10.3389/feduc.2021.656525.

29. Chen, C.-Y., Squires, J., & Scalise, K. (2020). Evaluating the dimensionality and psychometric properties of a social-emotional screening instrument using multidimensional item response theory, *Infants and Young Children*.

28. De Boeck, P. & Scalise K. (2019). Collaborative problem solving: Processing time, actions, and performance. *Frontiers in Psychology* 10: 1280, Section: Educational Psychology. Research Topic Title: Advancements in Technology-Based Assessment: Emerging Item Formats, Test Designs, and Data Sources, https://doi.org/10.3389/fpsyg.2019.01280, and open access eBook available at https://files-journalapi.frontiersin.org/v1/containers('ebookstorage')/readLinks('d5969a48c255418885451e83e8538460')/$value.

27. Scalise, K., Douskey, M., Stacy, A. (2018). Measuring learning gains and examining implications for student success in STEM, *Higher Education Pedagogies, 3*(1), 10-22.

26. Wilson, M, Scalise, K., and Gochyyev, P. (2018). Domain modelling for advanced learning environments: the BEAR Assessment System Software, *Educational Psychology*, July 24 (early release), https://doi.org/10.1080/01443410.2018.1481934.

25. Scalise, K., Irvin, P.S., Alresheed, F., Yim, H., Park, S., Landis, B., Meng, P., Kleinfelder, B., Halladay, L., Partsafas, A. (2018). Accommodations in computer-based, interactive assessment tasks: Promising practices for enhancing accessibility for students with disabilities, *Journal of Special Educational Technology (JOSET)*, https://doi.org/10.1177/0162643418759340.

24. Scalise, K., & Clarke-Midura, J. (2018). The many faces of scientific inquiry: Effectively measuring what students do and not only what they say, *Journal of Research in Science Teaching, 55*: 1469–1496, https://doi.org/10.1002/tea.21464.

23. Wilson, M., Scalise, K., Gochyyev, P. (2017). Modeling data from collaborative assessments: Learning in digital interactive social networks, *Journal of Educational Measurement*, *54*(1), 85-102.

22. Scalise, K. (2017). Hybrid measurement models for technology-enhanced assessments through mIRT-bayes, *International Journal of Statistics and Probability*, *6*(3), 168-182.

21. Scalise, K. (2016). Student collaboration and school educational technology: Technology integration practices in the classroom. *Journal on School Educational Technology*, *11*(4), 39-49.

20. Wilson, M., Scalise, K., & Gochyyev, P. (2016). Assessment of learning in digital interactive social networks: A learning analytics approach. *Online Learning Journal*, *20*(2), DOI: http://dx.doi.org/10.24059/olj.v20i2.799.

19. Wilson, M., Scalise, K., & Gochyyev, P. (2015). Rethinking ICT literacy: From computer skills to social network settings. *Thinking Skills and Creativity,* Issue on 21st century skills: International advancements and recent developments, *18*: 65-80.

18. Scalise, K., & Allen, D. (2015). Use of open-source software for adaptive measurement: Concerto as an R-based computer adaptive development and delivery platform. *British Journal of Mathematical and Statistical Psychology*, *68*(3), 478-496, DOI:10.1111/bmsp.12057.

17. Claesgens, J., Daubenmire, P., Scalise, K., Balicki, S., Gochyyev, P., & Stacy, A. M. (2014). What does a student know who earns a top score on the advanced placement chemistry exam? *The Journal of Chemical Education, 91*(4), 472-479.

16. Claesgens, J., Scalise, K., and Stacy, A. (2013). Mapping student understanding in chemistry: The perspectives of chemists. *Educación Química*, Emergent Topics Chemistry Education, *24*(4), 407-415.

15. Scalise, K. (2011). Crowdsourcing and education with relation to the knowledge economy. *International Journal of Web-Based Learning and Teaching Technologies, 6*(3), 1-13.

14. Scalise, K., Timms, M., Moorjani, A., Clark, L., Holtermann, K., & Irvin, P. S. (2011). Student learning in science simulations: Design features that promote learning gains. *Journal of Research in Science Teaching*, *48*(9), 1050-1078.

13. Wilson, M., & Scalise, K. (2011). The nature of assessment systems to support changes in practice. *E-Learning and Digital Media*, *8*(2), 121-132.

12. Scalise, K., Madhyastha, T., Minstrell, J., & Wilson, M. (2010). Improving assessment evidence in e-learning products: Some solutions for reliability. *International Journal of Learning Technology*, Special Issue: Assessment in e-Learning, 5(2), 191-208.

11. Claesgens, J., Scalise, K., Wilson, M., & Stacy, A. (2009). Mapping student understanding in chemistry: The perspectives of chemists. *Science Education*, *93*(1), 56-85.

10. Scalise, K. (2009). New electronic technologies for facilitating differentiated instruction. *Journal on School Educational Technology, 4*(4), 39-45.

9a. Scalise, K., Cheng, N. Y., & Oskui, N. (2009). Rasch family models in e-learning: Analyzing architectural sketching with a digital pen. *Journal of Applied Measurement*, *10*(3), 281-295.
AND (similar content appearing in two versions, at shared request of journal editors)

9b. Scalise, K., Cheng, N. Y., & Oskui, N. (accepted, see proofs). Rasch family models in e-Learning: Analyzing architectural sketching with a digital pen. *Advances in Rasch Measurement*, *2*(1).

8. Claesgens, J., Scalise, K., Wilson, M., & Stacy, A. (2008). Assessing student understanding in and between courses for higher education: An example of an approach. *Assessment Update*, *20*(5), 6-8.

7. Watanabe, M., Nunes, N., Mebane, S., Scalise, K., & Claesgens, J. (2007). "Chemistry for all, instead of chemistry just for the elite:" Lessons learned from detracked chemistry classrooms. *Science Education*, *91*(5), 683-709.

6. Scalise, K. (2007b). Differentiated e-learning: Five approaches through instructional technology. *International Journal of Learning Technology*, *3*(2), 169-182.

5. Scalise, K. (2007a). Differentiated e-Learning: What it is and five approaches. *Journal of Educational Technology*, *4*(1), 24-28.

4. Scalise, K., Bernbaum, D. J., Timms, M. J., Harrell, S. V., Burmester, K., Kennedy, C. A., & Wilson, M. (2007). Adaptive technology for e-learning: Principles and case studies of an emerging field. *Journal of the American Society for Information Science and Technology*, *58*(14), 001-015.

3. Wilson, M., & Scalise, K. (2006). Assessment to improve learning in higher education: The BEAR Assessment System. *Higher Education*, *52*, 635-663.

2. Scalise, K., Claesgens, J., Wilson, M., & Stacy, A. (2006). Contrasting the expectations for student understanding of chemistry with levels achieved: A brief case-study of student nurses. *Chemistry Education Research and Practice*, The Royal Society of Chemistry, *7*(3), 170-184.

1. Scalise, K., & Gifford, B. R. (2006). Computer-based assessment in e-learning: A framework for constructing "Intermediate Constraint" questions and tasks for technology platforms. *Journal of Teaching, Learning and Assessment*, *4*(6).

BOOKS

3. Wilson, M., Scalise, K., and Gochyyev, P. (proposal accepted, manuscript in preparation). *Assessment and Teaching of 21st Century Skills: The Intersection of Measurement and Learning Analytics*. Cham, Switzerland: Springer Nature.

2. Scalise, K., & Felde, M. (2017). *Why neuroscience matters in the classroom: Principles of brain-based instructional design for teachers*. Columbus, OH: Pearson, Prentice Hall.

1. Scalise, K. (2009). *Toward a theoretical basis for dynamically driven content: Computer-mediated environments and personalised e-learning*. Köln, Germany: Lambert Academic Publishing.

REFEREED BOOK CHAPTERS: Invited book chapters in individual book volumes

OECD PISA (invited, in preparation for 2022) Scalise, K., Chapter 7: Analysing and integrating new sources of data reliably in innovative assessments

OECD PISA (invited, in preparation for 2022), Scalise, K., Chapter 12: The intersection of two worlds: Learning analytics and measurement technology

14. Wilson, M., Scalise, K., & Gochyyev, P. (2018). Issues Arising in the Context of ICT Literacy Assessment, In Griffin, P., Wilson, M. & Care, E. (Eds.), *Assessment and teaching of 21st century skills, Volume 3 – research & applications*. Dordrecht: Springer.

13. Scalise, K. (2018). Next Wave for Integration of Educational Technology into the Classroom: Collaborative Technology Integration Planning Practices, In Griffin, P., & Care, E. (Eds.), *Assessment and teaching of 21st century skills, Volume 3 – research & applications*. Dordrecht: Springer.

12. Wilson, M., Scalise, K., & Gochyyev, P. (2018). ICT Literacy in Digital Networks, In Griffin, P., Wilson, M. & Care, E. (Eds.), *Assessment and teaching of 21st century skills, Volume 3 – research & applications*. Dordrecht: Springer.

11. Wilson, M., Scalise, K., & Gochyyev, P. (2018). ICT literacy as a 21st century skill: Learning in Digital Networks with Agile Development approaches. In R. W. Lissitz & H. Jiao (Eds.), *Technology enhanced innovative assessment: Development, modeling, and scoring from an interdisciplinary perspective*. Charlotte, NC: Information Age Publisher.

10. Scalise, K., Mustafic, M., & Greiff, S. (2016). Dispositions for collaborative problem solving. In S. Kuger, E. Klieme, N. Jude & D. Kaplan (Eds.), *Assessing context of learning world-wide (Methodology of educational measurement and assessment series)*. Dordrecht: Springer.

9. Wilson, M., & Scalise, K. (2016). Learning analytics: Negotiating the intersection of measurement technology and information technology. In J. M. Spector, B. B. Lockee & M. D. Childress (Eds.*), Learning, design, and technology. An international compendium of theory, research, practice, and policy*. Dordrecht: Springer.

8. Wilson, M., & Scalise, K. (2014). Assessment of Learning in Digital Networks. In Griffin, P., Wilson, M. & Care, E. (Eds.), *Assessment and teaching of 21st century skills, Volume 2 - methods & approaches*. Dordrecht: Springer.

7. Scalise, K., & Wilson, M. (2012). Measurement principles for gaming. In D. Ifenthaler (Ed.), *Assessment in game-based learning: Foundations, innovations, and perspectives*: Springer.

6. Wilson, M., Bejar, I., Scalise, K., Templin, J., Wiliam, D., & Torres Irribarra, D. (2012). Perspectives on methodological Issues. In P. Griffin, B. McGaw & E. Care (Eds.), *Assessment and teaching of 21st century skills, Volume 1*. Dordrecht; New York: Springer.

5. Scalise, K., & Ketterlin-Geller, L. R. (2011). Reciprocal Leading: Improving Instructional Designs in E-Learning. In I. Lovric (Ed.), *E-Learning: InTech*.

4. Scalise, K. (2011). Creating innovative items and test forms. In B. Lissitz & H. Jiao (Eds.), *Computers and their impact on state assessment: Recent history and predictions for the future*. Charlotte, NC: Information Age Publishing.

3. Scalise, K. (Jan. 2007). Differentiated e-Learning: What it is and five approaches. *Electronic Chapter, EDUCAUSE Information Resources Library*, from https://net.educause.edu/ir/library/pdf/CSD4903.pdf
.
2. Scalise, K., & Wilson, M. (2006). Analysis and comparison of automated scoring approaches: Addressing evidence-based assessment principles. In D. M. Williamson, I. J. Bejar & R. J. Mislevy (Eds.), *Automated scoring of complex tasks in computer based testing*. (Topics covered: Human scoring, rule-based methods, linear regression, testlet response theory, latent semantics, neural networks, Bayesian networks). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

1. Wilson, M. & Scalise, K. (2003), Reporting progress to parents and others: Beyond grades, *Everyday assessment in the science classroom*, Eds. Atkin, M. & Coffey, J., NSTA Science Educator's Essay Collection Series, National Science Teachers Association Press: Arlington, VA.

REFEREED COMMISSIONED WHITE PAPERS

2. Scalise, K. (2014). Assessment system design options for the Next Generation Science Standards (NGSS): Reflections on some possible design approaches. White Paper in K-12 Series, K-12 Center at ETS, Princeton, NJ.

1. Scalise, K. (2012). Using technology to assess hard-to-measure constructs in the CCSS and to expand accessibility. White Paper in K-12 Series, Invitational Research Symposium on Technology Enhanced Assessments, ETS, Washington, DC. Retrieved from http://www.k12center.org/events/research_meetings/tea.html.

POLICY PERSPECTIVES/COMMENTARIES

6. Scalise, K. and Wiliam, D. (2021). Emergency remote teaching and formative assessment: Students as learning resources for one another & Students owning their own learning, *Express, Educational Leadership*.

5. Scalise, K. and Wiliam, D. (2020). Emergency remote teaching and formative assessment: Feedback that moves learning forward, *Express, Educational Leadership*.

4. Scalise, K. and Wiliam, D. (2020). Emergency remote teaching and formative assessment: Eliciting evidence, *Express, Educational Leadership*.

3. Scalise, K. and Wiliam, D. (2020). Emergency remote teaching and formative assessment: Sharing learning intentions and success criteria, *Express, Educational Leadership*.

2. Scalise, K. (2016). Intellectual capital in the context of STEM assessment, *Measurement: Interdisciplinary Research and Perspectives*, *14*(4), pp. 156–157.

1. Scalise, K. (Aug. 2012). Science learning and instruction: Taking advantage of technology to promote knowledge integration, *Science Education, 96*(6), 1136-1138.

SOFTWARE & TECHNOLOGY DEVELOPMENT PROJECTS:

18. Explanatory Item Response Modeling of Reading Comprehension Assessment (Instruments & Analysis), Dissertation Project, Sunhi Park with Kathleen Scalise (in progress for completion in FY2019).

17. English Learners and Outcomes of Reading Passage Context Personalization (Instruments & Analysis), Dissertation Project, Deb Adkins with Kathleen Scalise (in progress for completion in FY2019).

16. Is CS for All Learners? Investigating the Intersection of English Learner and Computer Science Instruction, (Instruments & Analysis), Dissertation Project, Andrea Partsafas with Kathleen Scalise (in progress for completion in FY2018).

15. National Assessment of Educational Progress (NAEP) Interactive Computer Tasks (Science Education Scenario-based Tasks) and Hybrid Hands-on Tasks (Hands-on Laboratory Tabletop Tasks with Tablet Support), ETS for National Center for Education Statistics (http://nces.ed.gov/nationsreportcard/); PI for University of Oregon, 2013-14; 2015-current.

14. Second Language Acquisition and Emergent Language assessment, no walls between classrooms for native speakers and emergent speakers, ATC21S "Second Language Chat" international assessment, Cisco, Intel & Microsoft sponsored, PI for U. Oregon with UC Berkeley and Univ. of Melbourne leads (2011-still currently publishing on ATC21S analyses and results).

13. English Language Arts assessment, poetry passages, graphic organizers and ELA strategies individually and in collaboration, ATC21S "Webspiration" international assessment, Cisco, Intel & Microsoft sponsored, Cisco, Intel & Microsoft sponsored, PI for U. Oregon with UC Berkeley and Univ. of Melbourne leads (2011-still currently publishing on ATC21S analyses and results).

12. Science and Mathematics assessment, information foraging, scientific inquiry and mathematics simulation in collaborative teams, ATC21S "Arctic Trek" international assessment, Cisco, Intel & Microsoft sponsored, PI for U. Oregon with UC Berkeley and Univ. of Melbourne leads (2011-still currently publishing on ATC21S analyses and results).

11. Digital Open-Source Assessment Objects, Intermediate Constraint Taxonomy, University of Oregon, available at http://pages.uoregon.edu/kscalise/taxonomy/taxonomy.html, 2011-2014.

10. One-Goal School Improvement Plans Scholar's Bank, University of Oregon, Knight Library, available at https://scholarsbank.uoregon.edu/xmlui/handle/1794/10088, 2010-2014.

9. Vocabulary Gains (Instruments & Analysis), *Developing the English Language Vocabulary of Native Korean-Speaking Students through Guided Language,* Dissertation Project, Sarah Hahn with Kathleen Scalise.

8. Language Gains (Instruments & Analysis), *Synchronous Computer Mediated Communication and Second Language Proficiency,* Dissertation Project, Carlos Sequeria with Kathleen Scalise.

7. Formative Assessment Delivery System (FADS), a computerized system that allows classroom teachers to design, develop, and deliver formative assessments and to monitor and report student progress within an interpretive context, http://bearcenter.berkeley.edu/project/formative-assessment-delivery-system-fads, BEAR Center, UC Berkeley, project co-director for 2008-2010.

6. ConstructMap, a graphical, menu-driven software package that combines a multidimensional IRT engine for estimating item and person parameters with tools for managing cross-sectional and longitudinal student response data and interpreting findings from such data, http://bearcenter.berkeley.edu/software/constructmap, BEAR Center, UC Berkeley, project co-director for 2008-2010.

5. Assessment Designer, Item Authoring Tool for Coherent Assessment, software development project with CTB-McGraw Hill (proprietary access only), BEAR Center, UC Berkeley, project co-director for 2008-2010.

4. Desired Results Developmental Profile Tech (DRDPTech), Software for the California Department of Education to assess school readiness for young children, http://bearcenter.berkeley.edu/project/california-department-educations-desired-results-developmental-profile-drdp, BEAR Center, UC Berkeley, project co-director for 2008-2010.

3. Cobra Valley (2005), Software for Computer Adaptive Instruction with Model-based Assessment in Serious Gaming, piloted at UC Berkeley's Lawrence Hall of Science for calibration of the parameters of the measurement models in the STEM software; field study of measures at San Francisco Unified School District.

2. ChemQuery Assessment System and Adaptive Smart Homework Tool (2004-05), Department of Chemistry, School of Education and Distributed Learning Workshop, under National Science Foundation Grant 014822-003, University of California, Berkeley.

1. Multimedia Courseware Development (1995-96), Adapting Courseware Delivery to Individual Students through Dynamic Learning: Approaches in Engineering, Statistics and Mathematics; Institutionen Ingenjörshögskolan, Högskolan i Borås, Sweden.

REPORTS
6. National Research Council (2014). *Developing assessments for the next generation science standards*, Committee for the Report from the National Academies of Sciences, Committee on Developing Assessments of Science Proficiency in K-12, Board on Testing and Assessment and Board on Science Education, National Academy of Sciences. Editors: James W. Pellegrino, Mark R. Wilson, Judith A. Koenig, and Alexandra S. Beatty; Additional committee members for report: Richard M. Amasino, Edward H. Haertel, Joan Herman, Richard Lehrer, Scott F. Marion, Peter McLaren, Knut Neumann, William Penuel, Helen R. Quinn, Brian J. Reiser, Kathleen Scalise, Jerome M. Shaw, Nancy Butler Songer, Roberta Tanner, Catherine J. Welch.

5. ETS Design, Analysis and Report—DAR (2014-16, three reports), *Multi-year design plans for the NAEP science assessment,* Princeton, NJ.

4. Torres Irribarra, D., Scalise, K., Wilson, M., & Stanfield, D. (2010). *CTB/McGraw-Hill Assessment Designer report: Item authoring for coherent assessment*. Monterey, CA: CTB/McGraw-Hill.

3. Wilson, M., Scalise, K., Galpern, A., & Lin, Y.-H. (2009). *A guide to the formative assessment delivery system (FADS)*. Berkeley Evaluation and Assessment Research (BEAR) Report, UC Berkeley, Berkeley, California.

2. Scalise, K (2002). Assigned Principal Science Writer (one of three, with Roland Otto and Lynn Yarris), *Science Framework for California Public Schools: Kindergarten Through Grade Twelve* (Adopted by California State Board of Education 2/6/2002). "The Science Content Standards: High School Education, Physics, Chemistry, Biology/Life Sciences, Earth Sciences, Investigation and Experimentation," p. 159-257. Curriculum Frameworks and Instructional Resources Division, California Department of Education: Sacramento, CA.

1. Scalise, K. (2001). Assessment Instrument Report for "Living by Chemistry: Inquiry-Based Modules for High School," Assessment Report for Department of Chemistry & Lawrence Hall of Science, University of California, Berkeley, under National Science Foundation Grant #ESI-9730634.

List of STEM writing also available (science writing, technology, engineering, mathematics).

CONFERENCE PROCEEDINGS and PRESENTATIONS

National
64. Scalise, K. (2021, July). *Simulations in the Science Classroom,* National Science Teaching Association's Virtual STEM21, July 26-30.

63. Zvoch, K, Scalise, K., Loan, C. and Farley D. (2021, Sept.). *Student success teams and Oregon's 9th grade transition: An in the pipeline investigation of the 9th grade on-track to graduation rate*, Accepted to SREE Virtual Convenings, 2021 Conference, Sept. 26-29.

62. Scalise, K., Gochyyev, P., Wilson, M. (2020, Sept). *A Taxonomy of Critical Dimensions in Learning Analytics: Key Elements for Interpretation of Data*, Stanford University Conference on Educational Data Science.

61. Scalise, K. (2020, Apr). *Can we predict results of innovative assessments using machine learning and big data?* Paper selected for presentation at the International Objective Measurement Workshop (IOMW) Conference, Berkeley, CA. https://www.iomw.org/

60. Claesgens, J., Scalise, K., Stacy, A. (2020, Mar). *What chemistry knowledge is expected of nurses and what level they actually achieve – a brief case-study of student nurses*, 2020 Biennial Conference on Chemical Education. Abstract accepted March 31, 2020. Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.

59. Scalise, K. (2018). *Coherent systems design with performance assessment*, State Performance Assessment Learning Community, Stanford University, Stanford, CA.

58. Scalise, K., Stacy, A., & Douskey, M. (2018). *Measuring learning gains and examining implications for student success in STEM: A gender story in post-secondary first year*

chemistry, 4th Biennial Network Gender & STEM Conference: Reimagining who does STEM and why through research, education, and action, Eugene, OR.

57. Scalise, K. (2018), *Process Data: The role of semi-structured & unstructured evidence*, 2018 National Council on Measurement in Education, New York, NY.

56. Scalise, K., & Felde, M. (2017). *Why neuroscience matters in the classroom,* "The Science of How We Learn" Conference, San Francisco, CA.

55. Scalise, K. (2017, Sept.). *Specifying the domain of the NGSS for assessment*, 2017 Reidy Interactive Lecture Series (RILS), Portsmouth, NH.

54. Scalise, K. (2017), *The ocean of data from classroom EdTech: Are psychometricians ready?*, 2017 National Council on Measurement in Education, Austin, TX.

53. Scalise, K. (2017). *Transitioning NAEP Science to a digitally based assessment*, *Discussion and demonstration of new digitally based assessments for the National Assessment of Educational Progress (NAEP)*, American Educational Research Association (AERA), San Antonio, TX.

52. Scalise, K. (2017). *Transitioning NAEP Science to a digitally based assessment*, *Discussion and demonstration of new digitally based assessments for the National Assessment of Educational Progress (NAEP)*, American Educational Research Association (AERA), San Antonio, TX.

51. Scalise, K. (2017). *NGSS large-scale assessment: Challenges and opportunities*, Science SCASS/TILSA, New Orleans, LA.

50. Scalise, K. (2016). *What makes an item "technology enhanced?* Technology-Enhanced Items and Assessment Environments, 2016 Center for Assessment Colloquium of The National Center for the Improvement of Educational Assessment, Boulder, CO.

49. Scalise, K. (2015). *Science modeling for assessment of content and practices together*. Symposium organized and chaired, and one session presented as main author at the 2015 CCSSO National Conference on Student Assessment, San Diego, CA.

48. Scalise, K. (2015). *Automated scoring in complex tasks through multidimensional item response theory and Bayes nets (mIRT-bayes), a hybridized measurement model*. The State of the Art in Automated Scoring of Science Inquiry Tasks. Paper presented at the American Educational Research Association (AERA), Chicago, IL.

47. Scalise, K. & Clarke-Midura, J. (2014*). mIRT-bayes as hybrid measurement model for technology-enhanced assessments*. Paper presented at the 2014 National Council on Measurement in Education, Philadelphia, PA.

46. Doorey, N. & Scalise, K. (2014), *Potential comprehensive science assessment system designs and their trade-offs,* Paper presented at the 2014 National Council on Measurement in Education, Philadelphia, PA.

45. Wilson, M. R., Scalise, K., & Gochyyev, P. (2014). *Assessing learning in digital networks, Perspectives from ATC21S*. Paper presented at the 2014 National Council on Measurement in Education, Philadelphia, PA.

44. Scalise, K. (2013). *NGSS Assessment System Designs: System design options*, Invitational Research Symposium on Technology Enhanced Assessments, Washington, DC.

43. Dede, C., Clarke-Midura, J., Scalise, K. (2013). *Virtual performance assessment and games: Potential as learning and assessment tools*. Presented at the Invitational Research Symposium on Science Assessment, Washington, DC.

42. Scalise, K. (2013). *Planning for transition: Evolution of next-generation assessment system designs to support ongoing improvements in measuring complex skills and constructs*, CCSSO National Conference on Student Assessment. Retrieved from https://ccsso.confex.com/ccsso/2013/web.

41. Scalise, K. (2012). *Process of designing tasks to assess 21st century skills: Introducing 'Z' design*, 2012 Annual Conference of the International Society of Technology in Education. Retrieved from http://atc21s.org/wp-content/uploads/2012/07/ISTE_KScalise.pdf.

40. Wilson, M., & Scalise, K. (2012). *Measuring collaborative digital literacy*. Paper presented at the Invitational Research Symposium on Technology Enhanced Assessments, Washington, DC. http://www.k12center.org/events/research_meetings/tea.html.

39. Scalise, K. (2012). *Technology-enhanced to interactive to immersive assessments: Measurement challenges & opportunities*. Irvine, CA: National Research Council (NRC), Board on Testing and Assessment (BOTA).

38. Wilson, M., & Scalise, K. (2012). *Assessment of learning in digital social networks*; Assessment of Technology-Based Collaboration Skills: Transforming Assessment for the 21st Century. Paper presented at the American Educational Research Association, Vancouver, Canada.

37. Scalise, K. (2011). *Considerations when combining information from multiple and innovative item formats for inferences about students' understanding*. 2011 Edward F. Reidy, Jr Interactive Lecture Series Invited Presentation, Using Multiple Measures to Enhance Validity and Reliability: Applications to school accountability, teacher evaluation, and instructional improvement, http://www.nciea.org/publications/RILS_KS2011.pdf.

36. Scalise, K., & Wilson, M. (2011). *Innovative item types*. Smarter Balanced Consortium, http://www.k12.wa.us/smarter/.

35. Scalise, K. (2011). *Discussion on intermediate constraint taxonomy and automated scoring approaches*, Colloquium on Machine Scoring: Specification of Domains, Tasks/Tests, and Scoring Models, the Center for Assessment, May 25-26, 2011, Boulder, CO.

34. Wilson, M., & Scalise, K. (2011). *Methodology relating to the psychometrics underlying developmental work (Learning in Digital Communities)*. ATC21S Invited Seminar. Assessment and Teaching for 21st Century Skills. New Orleans.

33. Scalise, K., Timms, M., Moorjani, A., Clark, L., Holtermann, K., & Irvin, P. S. (2011). *Student learning in science simulations: Helping science educators and policy makers make sound choices for grade 6–12 classrooms*, National Association for Research in Science Teaching, NARST Annual International Conference, Orlando, FL.

32. Scalise, K. (2011). APEC Session: *Promising practices in the assessment of 21st-century competencies and skills: Lessons from the ATC21S*, Invited Presentation, Asia-Pacific Economic Cooperation, Education Network Meeting, Washington, DC.

29. Scalise, K., Stacy, A., Douskey, M., Daubenmire, P., Lim, T., Sinapuelas, M., & Rao, S. (2010). *ChemQuery as a formative assessment instructional strategy for Chem 1*. 240th ACS National Meeting & Exposition, NSF Catalyzed Innovations in the Undergraduate Curriculum, Boston, MA.

28. Scalise, K. (2010). *The influence and impact of technology on educational measurement* (Invited Symposium), National Council on Measurement in Education (NCME), Denver, CO.

27. Wilson, M., Bejar, I., Scalise, K., Templin, J., Wiliam, D., & Torres Irribarra, D. (2010). *21st-century measurement for 21st-century skills*. Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.

26. Scalise, K., & Wilson, M. (2010). *Examining student reasoning with bundle models in criterion-referenced assessment,* Session on Item/Task Modeling and Analysis: From Theory to Practice. Paper presented at the National Council on Measurement in Education Annual Conference, Denver, CO.

25. Scalise, K. (2010). *Innovative item types: New results on intermediate constraint questions and tasks for computer-based testing using NUI objects,* Session on Innovative Considerations in Computer Adaptive Testing. Paper presented at the National Council on Measurement in Education Annual Conference, Denver, CO.

24. Wilson, M., Scalise, K., Albornoz Reitze, A. M., Bein, E., Bousselot, T., Gochyyev, P., et al. (2010). *Progress monitoring for real classroom contexts: The Formative Assessment Delivery System*, Session on Classroom Assessments in Balanced State Assessment Systems. Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.

23. Scalise, K., & Wilson, M. (2009). *Formative Assessment Delivery System and uses for teachers in curriculum development*. Conference proceedings of the National Science Foundation 2009 DR-K12 Conference, Arlington, VA.

22. Wilson, M., Scalise, K., Matovinovic, D., & Boughton, K. (2009). *Item authoring for coherent assessment,* Invited presentation at the CTB McGraw-Hill Methodology Workshop, Monterey, California. Monterey, CA: CTB/Mcgraw-Hill.

21. Scalise, K., Timms, M. J., & Kennedy, C. (2009). *Assessment for e-learning: Case studies of an emerging field*. Presentation at Assessment & Teaching of 21st Century Skills First Annual Conference, sponsored by Cisco, Intel, Microsoft, San Diego, CA.

20. Scalise, K., Timms, M., Clark, L., & Moorjani, A. (2009). *Student learning in science simulations: What makes a difference*. Paper presented at the Conversation, Argumentation, and Engagement and Science Learning, American Educational Research Association, San Diego, CA.

19. Scalise, K. (2009). *Innovative item types: New results on intermediate constraint questions and tasks for computer-based testing*. Paper presented at the Innovations in Item Types and Test Design, National Council on Measurement in Education, San Diego, CA.

18. Wilson, M., Scalise, K., Kennedy, C. A., Galpern, A., Lin, Y.-H., Su, Y.-H., et al. (2009). *Formative Assessment Delivery System (FADS)*. Paper presented at the Technology Supports for Formative Assessment, American Educational Research Association, San Diego, CA

17. Scalise, K., & Gifford, B. R. (2008). *Innovative item types: Intermediate constraint questions and tasks for computer-based testing*. Paper presented at the National Council on Measurement in Education (NCME), Session on "Building Adaptive and Other Computer-Based Tests", New York, NY.

16. Scalise, K., & Wilson, M. (2008). *Bundle models for computer adaptive testing in e-;earning assessment*. Paper presented at the American Educational Research Association, Research on Schools, Neighborhoods and Communities: Toward Civic Responsibility, Division D, New York NY.

15. Scalise, K., & Gifford, B. R. (2008). *Innovative item types: A framework for constructing "Intermediate Constraint" questions and tasks*. Paper presented at the American Educational Research Association, Research on Schools, Neighborhoods and Communities: Toward Civic Responsibility, Division D, New York, NY.

14. Oskui, N., Scalise, K., & Cheng, N. Y. (2008). *Assessment in e-learning: Analyzing architectural sketching with a digital pen*. Paper presented at the American Educational Research Association, New York, NY.

13. Cheng, N. Y., & Scalise, K. (2008). Analyzing design sketching abilities. Poster presented at the Third International Conference on Design Computing and Cognition (DCC08), Georgia Institute of Technology, Atlanta, GA.

12. Scalise, K., Claesgens, J., Wilson, M., & Stacy, A. (2007). *ChemQuery: An assessment system for mapping student progress in learning general chemistry*. Paper presented in the Proceedings of the National STEM Assessment Conference, Oct. 19-21, Washington, D.C.

11. Scalise, K., & Wilson, M. (2007). *Bundle models for computer adaptive testing in e-learning assessment*. Paper presented at the 2007 GMAC Conference on Computerized Adaptive Testing (Graduate Management Admission Council), Minneapolis, MN.

10. Kennedy, C. A., Scalise, K., Bernbaum, D. J., Timms, M. J., Harrell, S. V., & Burmester, K. (2007). *A framework for designing and evaluating interactive e-learning products*. Paper presented at the 2007 AERA Annual Meeting: The World of Educational Quality, Chicago, IL.

9. Claesgens, J., & Scalise, K. (2007). *The ChemQuery story: Measurable insights on how students learn chemistry*. Paper presented at the 2007 AERA Annual Meeting: The World of Educational Quality, Chicago, IL.

8. Scalise, K., & Claesgens, J. (2005). *Personalization and customization in new learning technologies: Getting the right assets to the right people*. Paper presented at the Demography and Democracy in the Era of Accountability, American Educational Research Association Conference, Montreal, Canada.

7. Scalise, K., & Wilson, M. (2005). *Bundle models for data driven content in e-learning and CBT: The BEAR CAT approach*. Paper presented at the National Council on Measurement in Education Annual Conference, Montreal, Canada.

6. Scalise, K. (2005). *Data driven content in e-learning: Integrating instruction and assessment*. Paper presented at the American Association for Higher Education (AAHE) Virtual Assessment Conference, Strand 1: Promoting an Institutional Culture of Integrated Assessment, http://www.aahe.org.

5. Stacy, A., Claesgens, J., Scalise, K., & Wilson, M. (2004). *Perspectives of Chemists: A framework to promote conceptual understanding of chemistry*, Paper presented at the 18th Biennial Conference on Chemical Education, Ames, Iowa.

4. Scalise, K., Claesgens, J., Krystyniak, R., Mebane, S., Wilson, M. & Stacy, A. (2004). *Perspectives of Chemists: Tracking conceptual understanding of student learning at the secondary and university levels*, Paper presented at the 2004 annual meeting of the AERA, San Diego, CA.

3. Wilson, M., & Scalise, K. (2003, June). *Research on learning: Implications for higher education*. Opening Plenary Address at the American Association for Higher Education Assessment Conference, Seattle.

2. Wilson, M. & Scalise, K. (2003) *Assessment to improve learning in higher education: The BEAR Assessment System*. Invited keynote paper presented at the meeting of the American Association for Higher Education, 2003 Assessment Conference, June 22 Opening Plenary Session, Seattle, WA.

1. Claesgens, J., Scalise, K., Draney, K., Wilson, M., and Stacy, A. (2002). *Perspectives of Chemists: A framework to promote conceptual understanding of chemistry*. Paper presented at the annual meeting of the American Educational Research Association, Paper Session in Teaching and Learning for Conceptual Change, New Orleans.

International
18. De Boeck, P. & Scalise, K. (2019). Residual dependencies as a window on process data, 84th Annual Meeting of the Psychometric Society (IMPS), Santiago, Chile.

17. Wilson, M., Scalise, K., Gochyyev, P. (2018, Sept.). Explorations at the intersection of learning analytics and measurement. Peking University, Haidian Qu, Beijing Shi, China.

16. Thalmayer, A. G., Marshall, J., Scalise, K. (2017, July). *The WholeLife Scale: A Broad and Efficient Behavioral Health Risk Assessment*. European Conference on Psychological Assessment 14, ISCTE-IUL, Lisbon.

15. Wilson, M. & Scalise, K. (2012, April). *Assessment of learning in digital social networks*. Invited address at the ATC21S Research Symposium, Vancouver.

Also presented at the ETS Invitational Research Symposium on Technology Enhanced Assessments, Washington DC, May, 2012. [available at: http://www.k12center.org/rsc/pdf/session5-wilson-paper-tea2012.pdf].

14. Scalise, K., Ainley, J., Wilson, M., Fraillon, J., Reeff, J.-P., & Pirolli, P. (2011). *Conceptualising and measuring learning in digital networks*. European Conference on Educational Research 2011 (European Educational Research Association), Berlin, Germany.

13. Scalise, K. (2011). Keynote presentation: *Innovative items for computerized adaptive testing*, 2011 International Association for Computerized Adaptive Testing (IACAT) Conference. Pacific Grove, CA.

12. Stacy, A., Claesgens, J., & Scalise, K. (2011). *Mapping student learning in chemistry*, Symposium: Development of Conceptual Understanding in Chemistry, Strand: 1. Learning science - conceptual understanding, ESERA 2011 (European Science Education Research Association), Lyon, Centre de Congrès, France.

11. Scalise, K. (2010), *Assessing ICT literacy: Learning in digital communities*, Invited Presentation, Assessment and Teaching of 21st Century Skills (ATC21S), National Institute of Education (NIE), Nanyang Technological University (NTU), Singapore.

10. Wilson, M., Bejar, I., Scalise, K., Templin, J., Wiliam, D., & Torres Irribarra, D. (2010). *Assessment and teaching of 21st century skills: Perspectives on methodological issues*. Methodological working group paper released at the Learning and Technology World Forum 2010, London, UK.

9. Scalise, K., & Binkley, M. (2009). *Transforming educational practice by transforming assessment: Update on assessment & teaching of 21st century skills*, Program for International Student Assessment (PISA) Problem Solving 2012. Santa Barbara, CA.

8. Scalise, K. (2008) *Breaking rules and building success: Next generation for computer-based testing*. Invited address at the Lamark Computer-Based Testing Conference, De Hooge Vuursche, Baarn, The Netherlands.

7. Scalise, K., Bernbaum, D. J., Timms, M. J., Harrell, S. V., Burmester, K., Kennedy, C. A., et al. (2006). *Assessment for e-learning: Case studies of an emerging field*. 13th International Objective Measurement Workshop.

6. Wilson, M. & Scalise, K. (2005, May). *Assessment: A key aspect of teaching and learning*. Invited address at the First Athens International Conference on University Assessment, Athens, Greece.

5. Wilson, M., and Scalise, K. (2005, October). Lecture 1. *A constructive approach to measurement,* Keynote Lecture Series at the 21st University of Twente IRT Workshop, Enschede, The Netherlands.

4. Scalise, K. & Scalise, S (2004). *BEAR CAT: A new approach to data driven content in computer-mediated environments with the UC Berkeley BEAR Assessment System*. New Development Paper, Computer-Mediated Communication, published in Proceedings of ED-MEDIA 2004, World Conference on Educational Multimedia, Hypermedia and Telecommunications, Lugano, Switzerland.

3. Scalise, K. (2004). *A new approach to computer adaptive assessment with IRT construct-modeled item bundles (testlets): An application of the BEAR Assessment System*. 2004 International Meeting of the Psychometric Society, Monterey, CA.

2. Wilson, M., & Scalise, K. (2004, June). *Combining perspectives from cognitive science and psychometrics to improve assessment of science learning: The BEAR Assessment System*. Invited presentation at the 3rd Assessment for the Future Workshop. New College, Cambridge, UK.

1. Wilson, M., & Scalise, K. (2004, March). *Using assessment to improve learning: The BEAR Assessment System*. Keynote address at the Enhancement Themes 4th Assessment Workshop, The Robert Gordon University, Aberdeen, Scotland.

Regional

16. Scalise, K. (2021). *Developing Assessments for the Next Generation Science Standards*, Oregon Department of Education. Oregon Science Assessment 2019-20 School Year.

15. Gorin, J., & Scalise, K. (2014). *Innovation and the future of assessments*, California Educational Research Association (CERA) Conference, Building California's Future: Strategies for Achieving Coherence among Standards, Instruction, Assessment, and Evaluation.

14. Scalise, K. (2014). *Technology-enhanced assessments in NAEP*, California Educational Research Association (CERA) Conference, Building California's Future: Strategies for Achieving Coherence among Standards, Instruction, Assessment, and Evaluation.

13. Wilson, M., Scalise, K., & Gochyyev, P. (2014). *ICT literacy - Learning in digital Networks*. Paper presented at the Fourteenth Annual Maryland Conference, Technology Enhanced Innovative Assessment: Development, Modeling, and Scoring from an Interdisciplinary Perspective, College Park, MD.

12. Scalise, K. (2012). Innovative item types: *Why educators care about the future of technology-enhanced assessment,* California Educational Research Association (CERA) Conference, Innovation and Expectation: New Standards, Technologies, and Approaches that Propel Learning. Retrieved from http://cera-web.org/wp-

content/uploads/2012/12/CERA-keynote-Scalise.pdf.

11. Albornoz Reitze, A. M., Bein, E., Gochyyev, P., Lin, Y.-H. L., Scalise, K., Stanfield, D., et al. (2010). *Formative Assessment Delivery System: The development of resources and tools for teacher assessment of student learning*. UC Berkeley Evaluation and Assessment Research Seminar, March 30, Berkeley, CA.

10. Scalise, K. (2009). *Development and use of innovative item types in computer-based testing*. Portland, OR: Northwest Evaluation Association (NWEA).

9. Scalise, K. (2007). *How children explain science*, Oregon Museum of Science and Technology, Feature Hall, March 13, Portland, OR.

8. Scalise, K. (2007). *Thumbs up or thumbs down: How child literacy fares in the brave new world of online communications*. Oregon Conference 2007: Team Up for Literacy Success, from http://edld.uoregon.edu/OC_main.htm.

7. Scalise, K. (2006). *Mini-growth models for the classroom: Construct Mapping and creating opportunities to learn*, 32nd Annual COSA Seaside Conference, "Blurring the Lines of Accountability: A Collaborative Approach to Educating All Children". Seaside, OR: Confederation of Oregon School Administrators.

6. Scalise, K., Bernbaum, D. J., Timms, M. J., Harrell, S. V., Burmester, K., Kennedy, C. A., et al. (2006). *Assessment and e-Learning: Case studies of an emerging field*, BEAR and CAESL (UC Berkeley/Stanford/UCLA) Seminars.

5. Wilson, M., & Scalise, K. (2004, March). *Assessment: A key aspect of teaching and learning*. Plenary Panel presentation at the MSRI Workshop on Assessing Students' Mathematics Learning, Berkeley, CA.

4. Claesgens, J. & Scalise, K. (2004). *Perspectives of Chemists: A Framework to Promote Conceptual Understanding of Chemistry Tracks Student Learning Gains in High School and College*, Roundtable Discussion, Graduate School of Education, University of California, Berkeley.

3. Wilson, M., & Scalise, K. (2003, November). *Research on learning: Implications for assessment in higher education*. Plenary Address at the California Association for Institutional Research Annual Conference, Rohnert Park, CA.

2. Scalise, K & Claesgens, J (2001). *Using Variables to Relate Instruction to Assessment, The BEAR Assessment System*, Part I, BEAR Seminar, University of California, Berkeley.

1. Claesgens, J. & Scalise, K (2001). *Bridging Instruction and Assessment: An IRT Criterion-Based Approach Using the BEAR Assessment System*, San Francisco Unified School District, Thurgood Marshall School, San Francisco.

GRANTS & CONTRACTS ACTIVITY:

Awarded:

PI for UO: "A Study in Equity: Oregon's 9th Grade Transition," IES State Longitudinal Data Systems.
Sept. 1, 2021-Aug. 31, 2024
$817,488

PI: "National Assessment of Educational Progress (NAEP) Science Director, ETS."
Funding is provided on NAEP through the National Center for Education Statistics (NCES/IES).
Sept 16, 2018-June 15, 2019
$123,163 for 9 months (as PI for University of Oregon)

PI: "National Assessment of Educational Progress (NAEP) Science Director, ETS."
Funding is provided on NAEP through the National Center for Education Statistics (NCES/IES).
Sept 16, 2017-June 15, 2018
$117,527 for 9 months (as PI for University of Oregon)

PI: "National Assessment of Educational Progress (NAEP) Science Director, ETS."
Funding is provided on NAEP through the National Center for Education Statistics (NCES/IES).
Sept 16, 2016-June 15, 2017
$101,789 for 9 months (as PI for University of Oregon)

PI: "National Assessment of Educational Progress (NAEP) Science Director, ETS."
Funding is provided on NAEP through the National Center for Education Statistics (NCES/IES).
Science Education, National Assessment of Education Progress, ETS (2015-2016), NAEP produces Nation's Report Card, National Center for Education Statistics (as PI for University of Oregon, $99,793).

PI: "National Assessment of Educational Progress (NAEP) Science Director, ETS."
Funding is provided on NAEP through the National Center for Education Statistics (NCES/IES).
Science Education, National Assessment of Education Progress, ETS (2013-2014), NAEP produces Nation's Report Card, National Center for Education Statistics (as PI for University of Oregon, $79,460).

Co-PI: Bill & Melinda Gates Foundation (2012-2013), Harvard University, Virtual Performance Assessments, Science Education, *Applying Advanced Learning Analytics to a Virtual Assessment*, Creation, use and validation of mIRT-bayes model to analyze results of Virtual Performance Assessment (VPA) trials, (as PI, sabbatical funding).

Co-PI: Computer-Adaptive Testing with Mobile Devices Subaward (2012-2013), "Mind the Gap-Targeting Differences in Patients' Current and Preferred Abilities," Patient-Centered Outcomes Research Institute (PCORI), University of California San Francisco/San Francisco State University, (as PI, sabbatical funding).

PI: NSF 07-543 (2008-2011), Directorate for Education & Human Resources, Division of Undergraduate Education; Course, Curriculum, and Laboratory Improvement (CCLI) — Phase I, "ChemQuery as a Formative Assessment Instructional Strategy for Chem 1 (as PI for University of Oregon, on Collaborative Proposal with UC Berkeley, $149,969).

PI: ATC21S Demonstration Tasks Subaward, University of California, Berkeley - University of Melbourne – Microsoft, Contract Number 1-2000028774, 2011 (as PI for University of Oregon, $50,762).

External Eval: NSF 0815046 (2008-2011), Directorate for Education & Human Resources, Division of Undergraduate Education; Course, Curriculum, and Laboratory Improvement (CCLI) — Phase II, Developing Online Value Inventories to Predict and Improve Student Success in STEM Education (as External Evaluator, site visit funding and technology reviews).

Co-PI: NSF 06-609 (2007-2010), <u>Division of Research, Evaluation and Communication</u>, Research and Evaluation on Education in Science and Engineering (REESE), "Student Learning in Science Simulations: A Synthesis" (as co-PI, with WestEd as PI, $199,521).

Award #ESI-9730634, Living by Chemistry: Inquiry Based Modules for High School, Award Period Covered: 6/1/98 - 5/31/04 (Worked on obtaining this grant funding as a Graduate Student Researcher, PI was UC Berkeley Professor Angelica Stacy, Award Amount: $1,784,839).

Award #DUE-0125651, ChemQuery: An Assessment System for Mapping Student Progress in Learning General Chemistry, Award Period Covered: 11/01/01 - 10/31/04 (Worked on obtaining this grant funding as a Graduate Student Researcher, PI was UC Berkeley Professor Angelica Stacy, Award Amount: $499,976).

SERVICE: NATIONAL and INTERNATIONAL

Current: (International) PISA Research Innovations Group (RIG) and Technical Advisory Group (TAG), Organisation for Economic Co-operation and Development (OECD)**, 2019-2024.**

Current: Peer-Review of Manuscripts: As part of service to my field, I agree to review on average about six peer-reviewed manuscripts in my area per year. While I receive many more requests than this, I find I can review about one or two per term while successfully balancing my other service commitments to students, department, COE, University and my research field. So I try to select the most appropriate requests, including those in my research area in top journals in my field (see 1 and 2 below), those for which there are few qualified reviewers available in the field due to the context of a particular data set, modeling, or technology application (see 4 below), and those in emerging areas to serve equity and access in education (see 3 below). Review articles are non-disclosure so I will not list the paper titles but examples from previously include:

- *Journal of Educational Measurement*
- *Measurement: Interdisciplinary Research and Perspectives*
- *Educational Assessment*
- *Science Education*
- *Frontiers of Education in China*
- *Assessing context of learning world-wide (Methodology of educational measurement and assessment series). Dordrecht: Springer.*

2019-2021: (National) TAC/TAG: Served on Technical Advisory Committees/Technical Advisory Groups (TAC/TAG) for a multi-state K-12 consortium (PARCC) as well for some of the states in the U.S., as well as am serving in roles to assist other states with assessment development, technology enhancements, and psychometric considerations. This includes serving on the Oregon Department of Education TAC and on the leadership team for the California Next Generation Science Standards (NGSS) assessment contract for the California Department of Education.

2019: U. S. Technology & Engineering Literacy Assessments (TEL), National Assessment of Educational Progress (NAEP) project, ETS Expert Review Panel for Evidence Centered Design Development.

2015-16: (International) eTIMSS IEA, International Association for the Evaluation of Educational Achievement (IEA), Trends in International Mathematics and Science Study, Expert Panelist for eTIMSS planning on technology-enhanced assessments in science.

2015-16: (International) Global STEM Learning Alliance (GSLA), invited member.

2015-16: Educational Assessment Journal, Editorial Board.

2015: (International) PISA 2015 OECD, Science Education major cycle for service from 2011-2015, QEG Expert Panel and Liaison to the Collaborative Problem Solving Expert Group for the 2015 Programme for International Student Assessment (PISA) administration from the Core 6 Background Questionnaire Development Questionnaire Expert Group, Deutsches Institut für Internationale Pädagogische Forschung, project of the Organisation for Economic Co-operation and Development (OECD), 2011-2016.

2014: National Council on Measurement in Education (NCME), NCME Co-Chair, 2014 led with co-chair Paul de Boeck the program development for the **NCME Annual Conference,** Philadelphia, PA. NCME is the primary U.S. organization of measurement researchers and practitioners involved in educational assessment.

2014: U.S. National Academies, Committee on a Framework for Assessment of Science Proficiency in K-12, service from 2012-14, Board on Testing and Assessment (BOTA) & Board on Science Assessment (BOSA). Expert member on NAS committee making recommendations for developing assessments that validly measure student proficiency in science as laid out in the new K-12 science education framework. Final report to include a conceptual framework for science assessment in K-12, and make recommendations to state and national policymakers, research organizations, assessment developers, and study sponsors about steps needed for valid, reliable and fair assessments for Framework's vision of science education.

2014: U.S. NGSS/NAEP Comparison Expert Panel, American Institutes for Research, Washington, DC. Expert member for federal alignment study of the U.S. National Assessment of Educational Progress (Science; Technology & Engineering Literacy; and Mathematics subject matter areas) with the performance expectations of the Next Generation Science Standards.

2011-2014: (International) IEA, ICILS 2013, Project Advisory Committee for the IEA International Computer Information Literacy Study (ICILS). Members of the Project Advisory Committee provide expertise on the framework for the study, instruments, and the results of analyses as well as drafts of reports, http://icils.acer.edu.au. The International Association for the Evaluation of Educational Achievement (IEA) is an independent, international cooperative of national research institutions and governmental research agencies that conducts large-scale comparative studies of educational achievement and other aspects of education.

2011-2012: Smarter Balanced Assessment Consortium (SBAC), providing expertise on technology-enhanced assessments, innovative item types, automated scoring and measurement models to the U.S. consortium of SBAC states.

2010: U.S. Race to the Top Assessment Program, Expert Group for RTTA Proposal Application Review, U.S. Department of Education, 2010.

2008, National Science Foundation, Course, Curriculum and Laboratory Improvement Phase I Panel, July 10-11, 2008, Arlington, VA.

2008, National Advisory Panel Member, Formative Assessment Delivery System, UC Berkeley.

SERVICE: STATE and REGIONAL

Current: 2021-23, Oregon Department of Education, Technical Advisory Committee.

2020, Oregon Department of Education, Comprehensive Distance Learning, COVID-19 K-12 Response Team, and Supplemental Education and Learning Supports, COVID-19 K-12 Response Team.

2016, California Dept. of Education, Next Generation Science Standards (NGSS), provided expertise to the state for discussion of the NGSS science standards adopted by California (Sacramento, CA, fall-winter 2016).

2016, Oregon Dept. of Education, Next Generation Science Standards (NGSS), provided expertise to the state for discussion of the NGSS science standards adopted by Oregon (Salem, OR, spring 2016).

2010-11, Northwest Council for Computer Education, Board of Directors, Higher Education Representative (appointed on behalf of University of Oregon), 2010-2011.

2009-10, Senate and House, State of Oregon Online Learning Task Force, Task Force for Legislative Concept 15, to govern virtual public schooling for the State of Oregon, established by State Measure Number SB 767 and chaired by Senate and House for the purpose of ensuring that the state provides appropriate access to online learning through virtual public schools, invited appointment as Oregon University System Task Force Member, 2009-2010.

UNIVERSITY COMMITTEE, COLLEGE and DEPARTMENT SERVICE:

Current, 2017-2022, Director, COE, UO College of Education, EMPL Leadership+Administrative Skills Minor (LEADS), administering UO EMPL's undergraduate program.

Current: 2019-2022, COE Internal Governance Policy Review Committee, FY 2019-2022.

2020-2021, Associate Dean for Research, interim appointment for 2020-21, COE, UO College of Education, serves as director of COE Research and Outreach Centers (ROC).

2020-2021, UO Research Advisory Board (RAB), committee member, the RAB provides advice and counsel on research topics writ large at the University of Oregon.

2020-2021, Director, UO College of Education, EMPL Ph.D. program for Quantitative Research Methods in Education (QRME), administering UO EMPL's Ph.D. program.

2018-2019 & 2019-20, UO College of Education, FY 2018 & 2019 Faculty Personnel Committee (FPC), committee member for COE faculty tenure/promotion recommendations.

2017-2019, UO College of Education, Dean's Faculty Advisory Committee (FAC), Dean's appointment to the COE Faculty Advisory Committee.

2015-2019, Chair, UO College of Education, EMPL Colloquium Committee (Faculty Liaison).

2017-2019, Chair, UO College of Education, EMPL Instructional Technology Committee (PLC).

Current: 2016-2019, University of Oregon, UO IT Governance Executive Committee (ITGEC), appointed by Provost Scott Coltrane to this newly formulated committee which advises the Provost on all matters relating to IT including: creating, revising, maintaining, and implementing IT policies; prioritizing use of available resources; IT strategic planning, and appropriate balancing of central vs. distributed technology resources.

2016-2017, Phil and Penny Knight Campus for Accelerating Scientific Impact, Planning Group for Computational Science, Statistics & Applied Math, group member for planning around future efforts to support computational science on campus, with a specific focus on computational science, statistics, and applied mathematics and how they might be able to intersect with research initiatives within and between departments at the UO.

2015-2017, University of Oregon, Distinguished Teaching Awards, Campus Appointment, committee member for reviewing the submitted teaching award applications campus-wide and assessing for teaching quality in multiple aspects, including enhancing equity and inclusion through distinguished teaching practices across campus in many departments.

2016-2017, University of Oregon, College of Education, FY 2017 Faculty Personnel Committee (FPC), committee member for COE faculty tenure/promotion recommendations.

2015-current, Faculty Liaison/Faculty Head, EMPL Graduate Student Colloquium Committee. Lead students to organize an inclusive year-long colloquium series, which included planning for and requesting funding in the fall, and organizing for invited speakers.

2015-2017, Undergraduate Leadership Minor, New Program Development for EMPL, tenure-track faculty planning for 2015-16. This included attention to important practices of recruiting a diverse applicant pool to the major and considering ways to provide the major as a potential pipeline to inclusion for under-served students and school in the state. This has included creating the program and course structure; working with faculty members to develop six undergraduate courses; meeting with offices around campus to establish common understanding and shared thinking about the new program; and drafting or helping to complete proposals and other documents.

2011-14, Program Chair/Lead, Educational Technology and Virtual Schools (ETVS), EMPL, University of Oregon, 2011-2014.

2013, Program Lead, Graduate Certificate in Online Learning for the University of Oregon (EMPL), led initiative that secured for COE/EMPL a new OUS certificate to serve educational technology and virtual school preparation for Oregon K-12 teachers and school leaders, approved by the Oregon University System Provosts' Council in April 2013.

2013, Project Lead, Permanent Course Designation, prepared eight EMPL courses for permanent course designation and led them through the process for proposal and approval at Department, College, and University levels.

2011-13, New Course Fundraising and Adoption: Led the effort to obtain financial support (2 grants) and then launching and initial teaching trials of three new courses in educational technology for EMPL, approved as permanent UO courses in May 2013 (see above):
- EDLD 610a (became 656), Technology Foundations (4), Introduces students to computational thinking used in education, preparing them to apply technology foundations in schools.
- EDLD 610b (became EDLD 657), Information Technology for Curriculum Design (4), Addresses integration of classroom educational technology. Participants explore and evaluate best practices on how, when, and why technology might be introduced into education.
- EDLD 610a (became EDLD 658), Online Programs for Virtual Schooling (1-3), Students choose an area of focus and select one module on virtual schooling to complete per credit hour.

2012, Committee for E-Learning, member, Dean's Office, COE, University of Oregon.

2009-11, elected by campus to University of Oregon Intercollegiate Athletic Committee, served as faculty liaison to UO Intercollegiate Athletics from the COE.

2010, Doctoral Research Awards Committee, COE, member, University of Oregon.

2009, Subcommittee of the COE Curriculum Committee on Assessment and Measurement, member, University of Oregon.

2009, College of Education IT Committee, member, University of Oregon.

2008-09, Qualitative Methods Committee, member, College of Education, University of Oregon.

2007-08, Educational Technology Steering Committee, University of Oregon, 2007-2008. Allocation of funds to support campus instructional technology and facilities including classroom improvements, student labs, network infrastructure; faculty development and training in the use of technology resources; curriculum development.

2006-07, Quantitative Methods Committee, College of Education, University of Oregon.

2005-06, College Curriculum Committee, College of Education, University of Oregon.

CONSULTING

2012-2013: Harvard Virtual Performance Assessments, Science Education, Creation, use and validation of mIRT-bayes model to analyze results of Virtual Performance Assessment (VPA) trials.

2012-2013: Computer-Adaptive Testing with Mobile Devices, "Mind the Gap-Targeting Differences in Patients' Current and Preferred Abilities," Patient-Centered Outcomes Research Institute (PCORI).

2009-2010: ATC21S - Assessment & Teaching of 21st Century Skills, Expert Panel, Digital Literacy: Social Networking, Generating Constructs for 21st Century Skills, Paris, France, 2010, and Core Member, Methodological Working Group, 2009-2010.

2008-2010: Co-director, UC Berkeley Evaluation and Assessment Research Center, Sept. 2008-April 2010.

2005, State of Alaska SBA Standard Setting, for No Child Left Behind (NCLB) Alaska State Mathematics Testing Validation, Data Recognition Corporation, Bookmark Standard Setting, May 17-20, Anchorage, Alaska.

2004, Stanford Research International, Consultant in Educational Measurement, ASK Project, "Evaluative Research Studies: SRI International and FOSS Partnership."

2001, Usability Evaluation of Computer Interfaces, Personal Information Management (PIM) features of Outlook Microsoft Email Client, with Nicolas Ducheneaut, Bell Labs Research.

TEACHING: Courses

Dr. Scalise has a strong teaching record at both the graduate and undergraduate levels. She has extensive experience, research and preparation in both traditional classroom instruction and in online instruction. Her primary teaching areas are in data science courses including advanced predictive modeling in data science for the University of Oregon and the psychometric series in measurement and assessment; data analytics and data in decision making for leadership contexts; cognitive science and advanced learning theory courses; instructional technology courses for graduate students.

1. Advanced Predictive Modeling, Data Science series (Graduate Level; worked on course conception), University of Oregon.

2. Data in Decision Making, LEADS minor data science (Undergraduate Level), University of Oregon

3. Item Response Theory I &II, and Advance Measurement, Psychometrics series (Graduate), University of Oregon

4. Survey and Questionnaire Design and Analysis: Psychology and Analysis of Survey Response (Graduate), University of Oregon

5. Applied Statistical Analysis/Quantitative Methods (Data Science), University of Oregon

6. Introduction to Measurement and Assessment (Measurement I); Measurement and Decision-making; Measurement and Assessment Research, University of Oregon

7. Databased Decision-Making (Data Science), University of Oregon

8. Analysis of Teaching and Learning (Cognitive Science & Advanced Learning Theory), University of Oregon

9. Examining Leadership Effectiveness through Professional Development (Undergraduate), University of Oregon

10. Exploring Leadership (Undergraduate), University of Oregon

11. Curriculum Design and Delivery (Undergraduate), University of Oregon

12. Technology Foundations (Master's), University of Oregon

13. Information Management and Decision Making (Master's), University of Oregon

14. Information Technology for Curriculum Design (Master's), University of Oregon

15. Development of Online Programs for Virtual Schooling (Master's), University of Oregon

DOCTORAL and GRADUATE STUDENT ADVISING:

Advising	Last Name	First Name	Dept	Dates	Prog.	Role	Status
41	Kaylor	Errol	EMPL	2021-now	PHD	Advisor	Admitted FY21
40	Guha	Anwesha	EMPL	2020-now	PHD	Advisor	Admitted FY20
39	Malcom	Cassandra	EMPL	2020-now	PHD	Advisor	Admitted FY20
38	Bradford	Tasia	SPECS	2020-now	PHD	Member	Deb. Complete
37	Park	Sunhi	EMPL	2020	PHD	Chair	Deg. Complete
36	Parr	Nicholas	CPHS	2020	PHD	Member	Deg. Complete
35	Adkins	Deb	EMPL	2020	PHD	Chair	Deg. Complete
34	Meng	Paul	SPECS	2019	PHD	Member	Deg. Complete
33	Partsafas	Andrea	EMPL	2019	DED	Chair	Deg. Complete
32	Alresheed	Fahad	SPECS	2018	PHD	Member	Deg. Complete
31	Barrett	Geoffrey	EMPL	2018	DED	Chair	Deg. Complete
30	Sproles	Kraig	EMPL	2018	DED	Chair	Deg. Complete
29	Iurino	Kathryn	PSYCH	2018	PHD	Member	Deg. Complete
28	Christensen	Morgan	EMPL	2018	DED	Member	Deg. Complete
27	Guerreiro	Meg	EMPL	2017	PHD	Chair	Deg. Complete
26	Chen	Chieh-Yu	SPED	2017	PHD	Member	Deg. Complete
25	Oskui-Tabrizi	Nargas	EMPL	2014	DED	Chair	Deg. Complete
24	Yang	Li-Hsien	EMPL	2014	MS	Advisor/Chair	Deg. Complete
23	M'Enesti	Milan	EMPL	2013	MS	Advisor/Chair	Deg. Complete
22	Wubbold	Joseph	EMPL	2013	DED	Chair	Deg. Complete
21	Byers	Brandy	EMPL	2012	DED	Member	Deg. Complete
20	Chung	Juyoung	EMPL	2012	PHD	Chair	Deg. Complete
19	Gomez	Angela	EMPL	2012	DED	Member	Deg. Complete

18	James	Dena	EMPL	2012	PHD	Chair	Deg. Complete
17	Short	Barbara	EMPL	2012	DED	Chair	Deg. Complete
16	Clark	La Kisha	EMPL	2011	DED	Member	Deg. Complete
15	Dellabough	Kassia	EMPL	2011	PHD	Chair	Deg. Complete
14	Clott	Aimee	EDLD	2010	PHD	Member	Deg. Complete
13	Williams	Marilyn	EDLD	2010	DED	Member	Deg. Complete
12	Dey	John	EDLD	2009	DED	Member	Deg. Complete
11	Garrison Duncan	Amber	EDLD	2009	PHD	Member	Deg. Complete
10	Hahn	Sara	EDLD	2009	DED	Chair	Deg. Complete
9	Jablonski	Dennis	EDLD	2009	PHD	Member	Deg. Complete
8	Sequeira	Carlos	EDLD	2009	DED	Chair	Deg. Complete
7	Alverson	Charlotte	EDLD	2008	PHD	Member	Deg. Complete
6	Inman	Susan	EDLD	2008	DED	Member	Deg. Complete
5	Taylor	Christine	EDLD	2008	DED	Member	Deg. Complete
4	Vorapanya	Sermsap	EDLD	2008	DED	Member	Deg. Complete
3	Gupta	Saroj	EDLD	2007	DED	Chair	Deg. Complete
2	Peper	Alan	EDLD	2007	PHD	Member	Deg. Complete
1	Chung	Holly	EDLD	2005	DED	Member	Deg. Complete

EPISODIC LEARNING & EQUITY for LEARNING WORKSHOPS: K. Scalise

9. Scalise, K. (2013). Agile Development for Technology-Enhanced Assessments: Processes and Tools, ETS, Princeton, NJ.

8. Scalise, K. (2012). Computerized Adaptive Testing (CAT) Workshop, Chulalongkorn University, Bangkok, Thailand.

7. Scalise, K. (2010). Master Class: Innovative Item Types and Outcome Spaces in Measurement and Assessment, Chicago, IL.

6. Scalise, K. (2009). Teachers Workshops, Formative Assessment, Vanderbilt University, at Farmington, AK.

5. Scalise, K, Wilson, M., Albornoz Reitze, **A.,** Lin, Y.-H., Galpern, A., (2009). Development and Use of Innovative Item Types in Computer-Based Testing, Agile Development Workshop for National Council on Measurement in Education.

4. Scalise, K. (2009). Teachers Workshops, Formative Assessment, University of Michigan, at Ann Arbor, MI.

3. Scalise, K. (2007). Scoring Process Training Workshop, Teacher Workshops, Urban Assembly, College-Readiness Performance Assessment System (C-PAS), New York.

2. Scalise, K. (2004). Mapping Student Understanding, Episodic Learning Workshop for Professional Development of Tutors and Instructors, Student Learning Center, University of California, Berkeley.

1. Scalise, K. & Claesgens, J. (2002). Assessment in Science: A Framework for Promoting Conceptual Understanding in Chemistry, Curriculum and Resource Development Seminar, Lawrence Hall of Science, University of California, Berkeley.

HONORS, AWARDS, FELLOWSHIPS, MEMBERSHIPS ETC.:

- 2021, Caregiver Bronze Medal, Alison Caregiver (Hospice/Spousal).
- 2021, University of Oregon, Faculty Data Science Fellow, fellowship awarded for advanced preparation in data science technologies.
- 2021-current, American Association for the Advancement of Science, Member.
- 2020, University of Oregon, The COVID-19 Research Innovation Awards, presented for research with the State of Oregon on COVID-related guidance.
- 2019, Journal of Research in Science Teaching (JRST), nominated for 2019 top paper for educators.
- 2018, Faculty Excellence Award, University of Oregon.
- 2017, Journal of Educational Measurement (JEDM), A Top Downloaded Publication (among the top), "Modeling Data From Collaborative Assessments: Learning in Digital Interactive Social Networks"
- 2016, Online Learning Journal, 8th Most Downloaded Article for 2016, "Assessment of Learning in Digital Interactive Social Networks: A Learning Analytics Approach "
- 2015, Assessment for e-Learning for paper on "Assessment for e-Learning: Case studies of an emerging field"
- 2014, JCE Most Read Articles 2014, Journal of Chemical Education: "What Does a Student Know Who Earns a Top Score on the Advanced Placement Chemistry Exam?"
- 2014, ACS Editors' Choice Selection, American Chemical Society.
- 2013-2014, National Council on Measurement in Education, Program Co-Chair appointment.
- 2012-2013: Columbia University, Neuroscience Department, Visiting Research Scientist appointment.
- 2012-2013: Teachers College, Columbia University, Department of Communication, Computing & Technology, Visiting Scholar appointment.
- 2012, National Association for Research in Science Teaching, Top Five Articles for 2012, awarded for "Student Learning in Science Simulations: Design Features That Promote Learning Gains," Journal of Research in Science Teaching (JRST).
- 2011, U.S. Department of Education, Certification of Recognition for Outstanding Work for the Department's Race to the Top Assessment Program.
- 2007-2008, UC Berkeley, Department of Chemistry, Visiting Scholar Appointment
- 2007, Early Career Teaching Award, University of Oregon.
- 2006, University of Oregon, Instructional Technology Fellowship.
- 2002, University of California, Berkeley, Department of Education Marascuilo Fellowship.
- 2001, University of California, Berkeley, Department of Chemistry Summer Fellowship.
- 1999, University of California, Berkeley, Incentive Award.
- 1996, Writing, Winner, CASE Excellence Award team project.
- 1995, Multimedia and Web Development, Excellence in Performance Award, University of California, Berkeley.

PREVIOUS PROFESSIONAL EXPERIENCE: Science Writing and Multimedia Development

2002-2005   Chancellor's Speechwriter, Public Affairs, University Development, University of California, Berkeley.

2001-02   Senior Science Writer responding to public commentary hearings, California State Dept. of Education, Curriculum Frameworks Division, California State K-12 science framework, (Physical Sciences, Life Sciences, Earth Sciences, Scientific Inquiry).

1999-2000   Technology Writer/Reporter and Multimedia Development, Public Affairs, University Development, University of California, Berkeley (see story list available).

1996-1999   Science and Health Writer/Reporter, Public Affairs, University Development, University of California, Berkeley (see story list available).

1993-95   Online Editor and Multimedia Development, Public Affairs, University Development, UC Berkeley gateway site (www.berkeley.edu) and online news magazine, University of Calif., Berkeley.

1985-92   Science Writer/Editor, University of California, Berkeley, College of Chemistry, Development Office & Alumni Relations. (Coverage included chemical sciences, materials sciences, chemical engineering, structural biology, technology).

K/12 TEACHING EXPERIENCE:
1/84-6/84 Berkeley High School, Berkeley, Calif.
Topics: Stoichiometry, chemical bonding, molecular structure, ideal and real gases, acid-base and solubility equilibrium, oxidation-reduction reactions, thermochemistry, chemical kinetics, introduction to thermodynamics.

9/83-12/83 General Science (Physical, Life, and Earth Sciences), Bancroft Jr. High, San Leandro, Calif.
Topics: Cell structure and function; molecular and organism genetics; animal development, form and function; plant development, form, and function; population genetics, ecology, and evolution; human health topics.

Hold current California Clear State Single Subject Teaching Credential, K-12, Physical Sciences.

Hold current California Clear State Single Subject Teaching Credential, K-12, Life Sciences.