1 February 2019

VITA

Robert (Bud) M. Talbot III
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EDUCATION

Date Received	Degree	Institution	Subject
06/2011	Ph.D.	University of Colorado, Boulder	Curriculum & Instruction: Science Education
06/2000	M.S.	Indiana University, Bloomington	Science Education
06/1996	B.S.	Indiana University, Bloomington	Secondary Education Minor: Geological Sciences and Physics

TEACHING CERTIFICATIONS

Date Received	Certificates	State	Subject
1997	Certificate	Indiana	Secondary Earth/Space Science and Physics
2001	Certificate	Texas	Secondary Earth/Space Science and Physics
2009	Certificate	Colorado	Secondary Science

PROFESSIONAL EXPERIENCE

Dates	Position
06/2018-Present	Associate Professor (tenured) of Science Education School of Education and Human Development University of Colorado Denver
08/2011 – 06/2018	Assistant Professor of Science Education School of Education and Human Development University of Colorado Denver
08/2010 – 07/2011	Senior Instructor of Science Education School of Education and Human Development University of Colorado Denver

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08/2005 – 05/2010	Graduate Instructor School of Education University of Colorado Boulder
08/2007 – 05/2008	Liaison between School of Education and local elementary and secondary schools School of Education University of Colorado Boulder
08/2004 – 05/2010	Graduate Research Assistant School of Education University of Colorado Boulder
08/2001-04/2004	Physics and Engineering Teacher Humanities Co-Teacher Science Department Chairperson Elkins High School Missouri City, TX
08/1997-04/2001	Earth science, Physics, and general science teacher Clay City High School Clay City, IN

PEER REVIEWED PUBLICATIONS

2018 **Talbot, R. M.**, Wylie, R., Dutilly, E., & Nielsen, R. (2018). The Relationship between Format and Cognitive Depth of Science Teacher-Generated Questions. *Research in the Schools*, *25*(1), 35–46.

2018 Ferrara, M., **Talbot, R. M.**, Mason, H., Wee, B., Rorrer, R., Jacobson, M., & Gallagher, D. (2018). Enriching undergraduate experiences with outreach in school STEM clubs. *Journal of College Science Teaching*, *47*(6), 74–82.

2018 Nissen, J. M., **Talbot, R. M.**, Nasim Thompson, A., & Van Dusen, B. (2018). Comparison of normalized gain and Cohen's d for analyzing gains on concept inventories. *Physical Review Physics Education Research*, 14(1), 010115.

2017 **Talbot, R. M.** (2017). Scrutinizing a Survey-Based Measure of Science and Mathematics Teacher Knowledge: Relationship to Observations of Teaching Practice. *Research in Science Education*, 47(6)*,* 1255.1274. doi: 10.1007/s11165-016-9544-8

2015 **Talbot, R.M.**, Hartley, L., Marzetta, K. & Wee, B. (2015). Transforming undergraduate science education with learning assistants: Student satisfaction in large enrollment courses. *Journal of College Science Teaching, 44(5),* 24-30.

2013 **Talbot, R.M.** (2013). Taking an item-level approach to measuring change with the Force and Motion Conceptual Evaluation: Application of item response theory. *School Science and Mathematics, 113*(7), 356-365.

2011 Ruiz-Primo, M.A., Briggs, D.C., Iverson, H.I., **Talbot, R.M.**, & Shepard, L. (2011). Impact of undergraduate science course innovations on learning. *Science*, *331*(6022), 1269- 1270.

2008 Iverson, H.L., Lewis, M.A., & **Talbot, R.M.** (2008). Building a framework for determining authenticity of instructional tasks within teacher education programs. *Teaching and Teacher Education, 24*(2), 290-302.

2007 **Talbot, R.M.**, & Briggs, D. (2007). Does theory drive the items or do items drive the theory? *Measurement Interdisciplinary Research and Perspectives, 5*(2-3), 205-208.

2001 **Talbot, R.M.**, MaKinster, J.G., Moore, J., & Barab, S. (2001). The inquiry learning forum: Visiting classrooms and building community. *Hoosier Science Teacher, 26*(3), 83-89.

CONFERENCE PROCEEDINGS

2018, Washington, DC Doughty, L., Hartley, L., Le, P., Nyaema, M., Boyer, J., & **Talbot, R. M.** (2018). Investigating the relationship between active learning task characteristics and student success. In A. Traxler, Y. Cao, & S. Wolf (Eds.), *Physics Education Research Conference 2018*. Washington, DC.

2016, Sacramento, CA **Talbot, R. M.**, Doughty, L., Nasim, A., Hartley, L., Le, P., Kramer, L., … Boyer, J. (July 20-21, 2016). Theoretically Framing a Complex Phenomenon: Student Success in Large Enrollment Active Learning Courses. In D. L. Jones, L. Ding, & A. Traxler (Eds.), *2016 PERC Proceedings* (p. 4). Sacramento, CA.

2014, Honolulu, HI Paiva, F., Glenn, J., Mazidi, K., **Talbot, R.M.**, Wylie, R., Chi, M.T.H., Dutilly, E., Helding, B., Lin, M., Trickett, S., and Nielsen, R.D. (2014). *Comprehension SEEDING: Comprehension through self-explanation, enhanced discussion, and inquiry generation*. Proceedings of the Twelfth International Conference on Intelligent Tutoring Systems. Honolulu, Hawaii. June 4-9, 2014.

2011, University of South Africa (UNISA). **Talbot, R.M.** (2011). *Embedding content into an instrument designed to measure science and mathematics teachers' strategic knowledge: A challenge for validity.* Proceedings of the International Conference on Mathematics, Science, and Technology Education. October 17-20, 2011.

GRANTS FUNDED

External

2017 *CU Denver Noyce Track 1 (NT-1).* PI: Doris Kimbrough, Co-PI: Laurel Hartley, Co-PI: Mike Jacobsen, Co-PI: Heather Johnson, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Noyce program, REC: $1,198,648, funded.

2015 *Beyond Active Learning: Learning Assistant Supported Pedagogies in Large Lecture Science Courses*. PI: **Robert Talbot**, Co-PI: Laurel Hartley. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $1,198,920, funded.

2015 *STEM Club Leadership for Undergraduate STEM Education, Recruiting and Success (STEM CLUSTERS)*. PI: Michael Ferrara, Co-PI Michael Jacobson, Co-PI: Ronald Rorrer, Co-PI: **Robert Talbot**, Co-PI: Bryan Wee. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $249,876, funded.

2014 *Evaluating the Validity and Instructional Sensitivity of Concept Inventories*. Co-PI: Derek Briggs, Co-PI: Jenny Knight, Co-PI: **Robert Talbot**. W.M. Keck Foundation, Undergraduate Education Program. REC: $300,000, funded.

2011 *Promoting Undergraduate Licensure in Science Education (PULSE).* PI: Doris Kimbrough, Co-PI: Leo Bruederle, Co-PI: Laurel Hartley, Co-PI: **Robert Talbot**, Co-PI: Bryan Wee. National Science Foundation (NSF) Noyce Teacher Scholarships. REC: $1,199,996, funded.

2011 *Comprehension through Self-Explanation, Enhanced Discussion, and INquiry Generation (Comprehension SEEDING).* PI: Rodney Nielsen, Co-PI: Michelene Chi, Co-PI: **Robert Talbot**. Institute of Education Sciences (IES), collaborative with University of North Texas and Arizona State University. REC: $1,818,502, funded.

Internal

2013 *Ph.D. Research Assistantship Grant.* University of Colorado Denver, School of Education and Human Development. REC: Funding to support a full-time RA (20 hours per week for 32 weeks, including tuition) for 2013-2014.

2012 *The Effect of a Learning Assistant Program on Undergraduate Science Teaching and Learning and Science Teacher Recruitment.* PI: **Robert Talbot**, Co-PI: Laurel Hartley, Co-PI: Bryan Wee. University of Colorado Denver Faculty Development Grant. REC: $9,670, funded.

2011 *Developing a Learning Assistant Program to Promote Learning in Large Introductory Science Courses.* PI: Laurel Hartley, Co-PI: **Robert Talbot**, Co-PI: Bryan Wee. University of Colorado Denver College of Liberal Arts and Sciences Advancing Curricula and Teaching (ACT) program. REC: $3,500, funded.

2008 *Evaluation of St Vrain Valley School District MESA Program.* PI: Valerie Otero, Co-PI: **Robert Talbot**. University of Colorado Boulder, Continuing Education Outreach Grant. REC: $4,979, funded.

GRANTS UNFUNDED

External

2018 *Learning about Inclusivity and Community (LInC)*. PI: Ben Van Dusen, co-PI: Jayson Nissen, co-PI: Eleanor Close, co-PI: **Robert Talbot.** National Science Foundation (NSF) Improving Undergraduate STEM Education- Hispanic Serving Institutions (IUSE-HSI). REC: $1,270,932, declined.

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2018 *Supporting STEM Faculty Pedagogical Decisions Through Classroom Simulations*. PI Laurel Hartley, Co-PI: **Robert Talbot.** National Science Foundation (NSF) Cyberlearning & Future Learning Technologies. REC: $401,330, declined.

2017 *Impacts of STEM Peer Support and Outreach Programs on Undergraduate Mentor-Teachers (STEM Peers)*. PI: Mike Ferrara, Co-PI: Lynda Duran, Co-PI: Laurel Hartley, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $599,999, declined.

2017 *Simulating Complex Classroom Environments using Agent Based Modeling*. PI Laurel Hartley, Co-PI: **Robert Talbot.** National Science Foundation (NSF) Core R&D Programs. REC: $287,618, declined.

2017 *STEM Teacher Education in Leadership and Reform (STELAR)*. PI: Doris Kimbrough, co-PI: **Robert Talbot**, co-PI: Laurel Hartley, co-PI: Heather Johnson, co-PI: Mike Jacobson. National Science Foundation (NSF) Noyce Program, REC: $1,492,322, declined.

2016 *CU Denver Noyce Track 3 (NT-3).* PI: Doris Kimbrough, Co-PI: Laurel Hartley, Co-PI: Mike Jacobsen, Co-PI: Heather Johnson, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Noyce program, REC: $1,499,997, declined.

2016 *WiSTEM Teams: Building Resilience through Community at the University of Colorado Denver* PI: Laurel Hartley, Co-PI: Annika Mosier, Co-PI: **Robert Talbot**, Co-PI: Liliya Vugmeyster, Co-PI: Doris Kimbrough. National Science Foundation (NSF) S-STEM. REC: $999,110, declined.

2016 *Collaborative Research: Promoting Faculty and Institutional Change by Engaging with the Learning Assistant Model* PI: Laurel Hartley, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $849,186, declined.

2015 *Promoting Faculty Change and Student Success through the Adoption of the Learning Assistant Model* PI: Laurel Hartley, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $299,568, declined.

2015 *Peers Enhancing Education and Retention in STEM (PEER-STEM).* PI: Michael Ferrara, Co-PI: Ellen Gethner, Co-PI: Laurel Hartley, Co-PI: Ronald Rorrer, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $1,712,279, declined.

2014 *Promoting Faculty Development and Student Success through the Adoption of the Learning Assistant Model*. PI: Laurel Hartley, Co-PI: **Robert Talbot.** National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $249,975, declined.

2014 *Studying Undergraduate STEM Transformation And Institutional Networking (SUSTAIN)*. PI: **Robert Talbot**, Co-PI: Laurel Hartley. Collaborative Research Proposal with the University of Colorado Boulder, North Dakota State University, Rutgers, George Mason University, Boston University, California State University Long Beach, and Seattle Pacific University. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $19,338, declined.

2014 *Peers Enhancing Education and Retention in STEM (PEER-STEM).* PI: Michael Ferrara, Co-PI: Ellen Gethner, Co-PI: Laurel Hartley, Co-PI: Ronald Rorrer, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $2,238,071, declined.

2013 *Collaborative Research: Learning Progression Based Tools to Support Ecological Systems Thinking.* PI: Laurel Hartley, Co-PI: Charles Anderson, Co-PI: Jennifer Doherty, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Discovery Research K-12 (DRK-12). REC: $2,056,670, declined.

2013 *RISE (Retention through Integrative STEM Education).* PI: Doris Kimbrough, Co-PI: Dan Connors, Co-PI: Michael Ferrara, Co-PI: Robin Shandas, Co-PI: **Robert Talbot**, Co-PI: Geeta Verma. Howard Hughes Medical Institute (HHMI). REC: $2,500,000, declined.

2012 *STEM Professional Development: Comparison and Research Analysis of Teachers in Colorado.* PI: Doris Kimbrough, Co-PI: Michael Ferrara, Co-PI: **Robert Talbot**. National Science Foundation (NSF) Discovery Research K-12 (DRK-12). REC $2,835,965, declined.

2011 *The Innovation Hyperlab - Linking Technologies and Age Groups through Research and Innovation.* PI: Randall Tagg, Co-PI: Ronald Rorrer, Co-PI: **Robert Talbot**. National Science Foundation (NSF) ITEST. REC: $1,171,292, declined.

GRANTS IN REVIEW

2018 *Adaptive Microbiology: Inclusive Curriculum Reform (A.M.I.C.R.O)*. PI: **Robert Talbot**, co-PI Laurel Hartley. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $299,267. Awaiting decision.

2018 *Collaborative Research: Colorado "Beyond Articulation" Collaborative (CO-BAC)*. PI: Laurel Hartley, co-PI: **Robert Talbot**. National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE). REC: $2,999,797. Awaiting decision.

OTHER INDICATORS OF SCHOLARLY AND CREATIVE ACTIVITY

DOCTORAL DISSERTATION

2011 **Talbot, R.M**. (2011). Validity issues in the evaluation of a measure of science and mathematics teacher knowledge. Unpublished doctoral dissertation, University of Colorado Boulder, Boulder, CO

PEER REVIEWED PRESENTATIONS AT MEETINGS/CONFERENCES

2018, Boulder, CO Moore, M. E., A. J. Purtell, **& Talbot, R.M**. (2018, November). *Preparing LAs for Challenging Interactions*. Poster presented at the 2018 International LA conference. University of Colorado, Boulder, CO. DOI: 10.13140/RG.2.2.36642.89288

2018, Washington, DC Doughty, L., Hartley, L., Le, P., Nyaema, M., Boyer, J., & **Talbot, R.M.** (2018, August). Investigating the Relationship between Active Learning Task Characteristics and Student Success. Poster presented at Physics Education Research Conference.

2018, Minneapolis, MN	Hartley, L., **Talbot, R.M.,** Boyer. J., Doughty, L., Le, P., Huvard, H., Thompson, A.N., Grassie, Chelsey., McDevitt, A., Kramer, L., & Nyaema, M. (2018, July). Using Activity Theory to Examine Active Learning in Learning Assistant Supported STEM Courses. Paper presented at Society for the Advancement of Biology Education Research (SABER) 8th Annual Meeting.
2018, Atlanta, GA	Ferrara, M., Mason, H., Wee, B., **Talbot, R. M.,** & Jacobsen, M. (2018, March). The *Impact of K-12 Outreach Experiences on Undergraduate STEM Majors' Scientific Literacy and STEM Communication Skills.* Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Thompson, A.N, Doughty, L., **Talbot, R. M.,** Hartley, L., & Le, P (2018, March). *Learning Assistants' Actions in Undergraduate Science Courses: Point-of-View Video Analysis.* Poster presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Le, P, **Talbot, R. M.,** Hartley, L., Doughty, L., Thompson, A.N, & McDevitt, A.L. (2018, March). *Network Differences in Underrepresented Students in Learning Assistant Supported Undergraduate Science Classrooms.* Poster presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Nissen, J.M., **Talbot, R. M.,** Thompson, A.N, & Van Dusen, Ben (2018, March). *A Comparison of Hake's G and Cohen's D for Analyzing Student Learning.* Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Le, P, **Talbot, R. M.,** McDevitt, A.L., Hartley, L., Thompson, A.N, & Doughty, L., (2018, March). *The Classroom Community: How Student Interaction Relates to Outcomes.* Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Hartley, L., Doughty, L., Le, P, Thompson, A.N, & **Talbot, R. M.** (2018, March). *The Classroom Community: What Students, Faculty and Learning Assistants are doing in the Active Learning Class*. Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Thompson, A.N, Doughty, L., **Talbot, R. M.**, Le, P , & Hartley, L., (2018, March). *Learning Assistants' Actions: An Analysis of their Interactions with Students*. Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2018, Atlanta, GA	Doughty, L., **Talbot, R. M.**, Hartley, L., Le, P , & Thompson, A.N (2018, March). *Characterizing Mediating Artifacts: Authenticity of Active Learning Tasks*. Paper presented at the National Association of Research in Science Teaching Annual Conference, Atlanta, GA
2017, Dublin, Ireland	Doughty, L., **Talbot, R. M.**, Hartley, L., Thompson, A.N & Le, P. (2017, August). *Characterizing Active Learning Tasks in University Science Classrooms*. Paper presented at European Science Education Research Association Conference.
2017, Cincinnati, OH	**Talbot, R.M.**, Le, P., McDevitt, A., Nasim, A, Doughty, L., Hartley, L. (2017, July). *Relationships Between Social Networks and Student Outcomes in Learning Assistant Supported Courses*. Paper presented at the American Association of Physics Teachers annual meeting.

2017, Cincinnati, OH	Nyaema, M., Rodriguez, I., Diaz. O., Kornreich-Leshem, H., Kramer, L., Grassie, C., McDevitt, M., Boyer, J., Thompson, A.N, Le, P., Doughty, L., Hartley, L., & **Talbot, R.M.** (2017, July). *Investigating the Effects of Learning Assistant-Supported Active Learning Environment: What LAs do in the Classroom*. Poster presented at Physics Education Research Conference, Cincinnati, Ohio.
2017, Cincinnati, OH	Doughty, L., **Talbot, R. M.,** Hartley, L., Thompson, A.N & Le, P. (2017, July). *Characterizing Active Learning Tasks in University Science Classrooms*. Poster presented at Physics Education Research Conference.
2017, Minneapolis, MN	Avena, J.S., Grassie, C.L., Knight, J., **Talbot, R. M.**, & Briggs, D.C.(2017, July). *Measuring student learning in genetics: A comparison of performance on the Genetics Concept Assessment and instructor-generated exam items.* Poster presented at Society for the Advancement of Biology Education Research (SABER) 7th Annual Meeting.
2017, Minneapolis, MN	Doughty, L., Hartley, L., Thompson, A.N, Le, P. & **Talbot, R. M.** (2017, July). *Characterizing Active Learning Tasks in Undergraduate Science Classrooms*. Poster presented at Society for the Advancement of Biology Education Research (SABER) 7th Annual Meeting.
2017, Minneapolis, MN	Le P., **Talbot R.M.**, Boyer J., McDevitt A., Hartley L.M., Thompson A.N., Doughty L. *Does more interactive engagement lead to increased student success? Network differences in LA and non-LA supported courses*. Society for the Advancement of Biology Education Research (SABER) 7th Annual Meeting, Minneapolis, MN, July 21-23, 2017.
2017, Minneapolis, MN	Thompson, A.N., Doughty, L., Hartley, L., Le, P., & **Talbot, R. M.** (2017, July). *Understanding the Roles that Learning Assistants undertake in undergraduate Science Courses.* Poster presented at Society for the Advancement of Biology Education Research (SABER) 7th Annual Meeting.
2017, Minneapolis, MN	Doughty, L., Farlow, B., Boyer, J., Hartley, L., Kornreich-Leshem, H., Kramer, L., Thompson, A.N, Le, P., Nyaema, M. & **Talbot, R.M.** (2017, July). *Understanding Active Learning and Learning Assistant Support in Undergraduate Science Classrooms*. Poster presented at Transforming Research in Undergraduate STEM Education Conference.
2017, San Antonio, TX	Mason, M., **Talbot, R.M.**, Ferrara, M., Wee, B., Jacobson, M. & Rorrer, M. (2017, April). *Understanding How Participation in Middle/High School STEM Clubs Shapes Undergraduate Students' STEM Identities.* Paper presented at the National Association of Research in Science Teaching Annual Conference.
2017, San Antonio, TX	Wee, B., Ferrara, M., Jacobson, M., Mason, M., Rorrer, M. & **Talbot, R.M.** (2017, April). *The Impact of Organizing Middle and High School STEM Clubs on Undergraduate STEM Majors.* Poster presented at the National Association of Research in Science Teaching Annual Conference.
2016, Sacramento, CA	**Talbot, R. M.**, Doughty, L., Nasim, A., Hartley, L., Le, P., Kramer, L., Kornreich-Leshem, H. & Boyer, J. (2016, July). *Data, Variables, and Evidence: Specifying Theoretically Sound Predictive Models*. Physics Education Research Conference.

2016, Sacramento, CA	Doughty, L., **Talbot, R. M.**, Nasim, A., Hartley, L., Le, P., Kramer, L., Kornreich-Leshem, H. & Boyer, J. (2016, July). *Developing An Observation Protocol To Investigate Factors That Influence Student Success*. Physics Education Research Conference.
2016, Sacramento, CA	Doughty, L., **Talbot, R. M.**, Hartley, L., Nasim, A., Le, P., Kramer, L., Kornreich-Leshem, H. & Boyer, J. (2016, July). *Active Learning and Learning Assistant Support Predictors of Student Success.* Poster presented at Physics Education Research Conference.
2016, Minneapolis, MN	Le P., **Talbot R.M.**, Hartley L., Nasim A., Doughty L. (2016, July). *The Influence of Student Diversity on Social Network Formation.* Poster presented at Society for the Advancement of Biology Education Research (SABER) 6th Annual Meeting.
2016, Minneapolis, MN	Hartley L., **Talbot R.M.**, Boyer J, Doughty L, Le P., Nasim A, Korneich-Leshem H. (2016, July). *Characterizing the Activities of Learning Assistants in Large Enrollment Science Courses.* Poster presented at Society for the Advancement of Biology Education Research (SABER) 6th Annual Meeting.
2016, Washington, DC	**Talbot, R.M.**, Hartley, L., Kramer, L., Kornreich-Leshem, H., Boyer, J., Doughty, L. (2016, April). *Specifying a Hierarchical Linear Model and Interpretive Framework to Investigate the Effects of Learning Assistant Support on Student Outcomes*. Poster presented at Envisioning the Future of Undergraduate STEM Education: Research and Practice meeting.
2015, Minneapolis, MN	Le PT, **Talbot R.M.**, Hartley L., Nasim A. (2015, July). *Class and Student-Level Social Networks in a Learning Assistant Supported Biology Course and their Relationship to Student Outcomes*. Society for the Advancement of Biology Education Research (SABER) 5th Annual Meeting.
2015, New Orleans, LA	**Talbot, R.M.**, Hartley, L. (2015, June). *The Learning Assistant Model: Supporting Student Success through Course Transformation*. Presentation at the Science and Mathematics Teacher Imperative 2015 National Conference.
2015, Chicago, IL	**Talbot, R.M.**, Hartley, L., Liddick, L., & Wee, B. (2015, April). *Characterizing Student Interaction in a Learning Assistant Supported Biology Course: The Classroom as a Social Network.* Paper presented at the National Association of Research in Science Teaching Annual Conference.
2014, St. Louis, MO	**Talbot, R.M.**, Hartley, L., Liddick, L. (2014, September). *Characterizing Student Engagement in a Learning Assistant Supported Biology Course: The Classroom as a Social Network.* Poster presented at Integrating Cognitive Science with Innovative Teaching in STEM Disciplines, St. Louis, MO.
2014, Boulder, CO	**Talbot, R.M.** (2014, August). *Learning about Teaching #Throughglass*. Presentation at the Colorado Learning and Teaching with Technology Conference, Boulder, CO.
2014, Boulder, CO	Wylie, R., **Talbot, R.M.**, Dutily, E., Chi, M.T.H., Trickett, S., Helding, B., & Nielsen, R. (2014, June). *Comprehension SEEDING: Providing real-time formative assessment to enhance classroom discussion*. Poster presented at the International Conference of the Learning Sciences, Boulder, CO.

2014, Honolulu, HI	Wylie, R., Helding, B., **Talbot, R.M.**, Chi, M.T.H., Trickett, S., & Nielsen, R. (2014, June). *Using Log Data to Predict Response Behaviors in Classroom Discussions*. Paper presented at the 12th International Conference on Intelligent Tutoring Systems, Honolulu, HI.
2014, Honolulu, HI	Paiva, F., Glenn, J., Mazidi, K., **Talbot, R.M.**, Wylie, R., Chi, M.T.H., Dutilly, E., Helding, B., Lin, M., Trickett, S. & Nielsen, R. (2014, June). *Comprehension SEEDING: Comprehension through Self Explanation, Enhanced Discussion, and Inquiry Generation.* Paper presented at the 12th International Conference on Intelligent Tutoring Systems, Honolulu, HI.
2013, San Antonio, TX	**Talbot, R.M.**, Hartley, L., & Wee, B. (2013, November). *Defining and Measuring Student Engagement in Undergraduate Science Courses.* Paper presentation at School Science and Mathematics Association Annual Convention, San Antonio, TX.
2013, San Antonio, TX	**Talbot, R.M.**, Wylie, R., Barnett, S., Nielsen, R., & Chi, M.T.H (2013, November). *Deploying tablets in middle schools for research and development: Struggles and successes.* Paper presentation at School Science and Mathematics Association Annual Convention, San Antonio, TX.
2013, Boulder, CO	Paul, D., & **Talbot, R.M.** (2013, August). *Chromebooks in the classroom.* Presentation at the Colorado Learning and Teaching with Technology Conference, Boulder, CO.
2013, San Francisco, CA	Wylie, R., Chi, M.T.H., **Talbot, R.M.**, & Nielsen, R. (2013, April). Comprehension SEEDING: Using technology to enhance self-explanation, classroom discussion, and question generation. In R. Wylie & E. Walker (chairs), *Beyond problem solving: Applying lessons from intelligent tutoring to new contexts, domains, and platforms.* Round table conducted at the American Education Research Association Annual Meeting. San Francisco, CA.
2013, Honolulu, HI	Marzetta, K., & **Talbot, R.M.** (2013, January). *The learning assistant program at the University of Colorado Denver: Pipeline to science teaching licensure and knowledge development.* Paper presented at the Hawaii International Conference on Education, Honolulu, HI.
2012, Denver, CO	**Talbot, R.M.** (2012, October). *Construct based measurement in science education research.* Presentation at the University of Colorado Denver STEM Education Symposium, Denver, CO.
2012, Boulder, CO	**Talbot, R.M.**, Helding, B., Chi, M.T.H., Nielsen, R., Wylie, R. (2012, October). *Defining a construct for assessing deep learning in middle school physical science*. Poster presented at iSTEM Symposium on STEM Education, Boulder, CO.
2012, Vancouver, BC	**Talbot, R.M.** (2012, April). *Scrutinizing a measure of science and mathematics teacher knowledge: Implications for claims of validity*. Paper presented at the American Educational Research Association Annual Meeting, Vancouver, BC.
2011, Colorado Springs, CO	**Talbot, R.M.** (2011, November). *Measuring STEM teachers' strategic knowledge with a scenario-based instrument.* Paper presented at the School Science and Mathematics Association Annual Convention, Colorado Springs, CO.

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2010, Denver, CO	**Talbot, R. M.**, Lewis, M. A., & Iverson, H. I. (2010, May). *A framework for assessing the authenticity of instructional tasks in teacher education: Implications for instructors, program Administrators, and Researchers.* Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.
2010, Denver, CO	Iverson, H. I., Briggs, D. C., Ruiz-Primo, M. A., **Talbot, R. M.**, & Shepard, L. A. (2010, April). *A closer look at undergraduate physics course innovations: A meta-analysis of their impact on student learning.* Paper presented at the American Educational Research Association Annual Meeting, Denver, CO.
2009, Ann Arbor, MI	Iverson, H. I., Briggs, D. C., Ruiz-Primo, M. A., **Talbot, R. M.**, & Shepard, L. A. (2009, July). *Undergraduate physics course innovations and their impact on student learning.* Paper presented at the Physics Education Research Conference, Ann Arbor, MI.
2009, Ann Arbor, MI	**Talbot, R. M.**, & Otero, V. K. (2009, July). *Measuring teacher quality with the FASCI instrument: A multi-university study.* Paper presented at the American Association of Physics Teachers annual conference, Ann Arbor, MI.
2009, Ann Arbor, MI	**Talbot, R. M.**, Otero, V. K., & Briggs, D. C. (2009, July). *Measuring science teacher knowledge: Domain-general or domain-specific?* Poster presented at the annual Physics Education Research Conference, Ann Arbor, MI.
2009, Denver, CO	**Talbot, R. M.**, Otero, V. K., & Briggs, D. C. (2009, April). *Measuring physics teacher knowledge: Is it domain-specific?* Paper presented at the April Meeting of the American Physical Society, Denver, CO.
2009, San Diego, CA	**Talbot, R. M.**, Briggs, D. C., & Otero, V. K. (2009, April). *Can science teachers' strategic knowledge be conceptualized as a learning progression?* Symposium presentation at the annual meeting of the American Educational Research Association Annual Meeting, San Diego, CA.
2009, Garden Grove, CA	**Talbot, R. M.**, Otero, V. K., Finkelstein, N. D., Gray, K. G., Webb, D. C., & Moin, L. J. (2009, April). *A Longitudinal Study on Pedagogical Content Knowledge: Synthesizing Research on Content, Pedagogy, and Practice.* Symposium presentation at the Annual Conference of the National Association of Research of Research in Science Teaching, Garden Grove, CA.
2008, New York, NY	**Talbot, R. M.**, & Briggs, D. (2008, March). *Measuring the pedagogical sophistication of science teachers using the flexible application of student-centered instruction (FASCI) instrument.* Paper presented at the American Educational Research Association Annual Meeting, New York, NY.
2008, New York, NY	Lewis, M. A., **Talbot, R. M.**, & Iverson, H. L. (2008, March). *An evaluation of the instructional task authenticity within a teacher education program.* Paper presented at the American Educational Research Association Annual Meeting, New York, NY.
2008, New York, NY	Iverson, H. L., Lewis, M. A., & **Talbot, R. M.** (2008, March). *A framework for instructional task authenticity.* Paper presented at the American Educational Research Association, New York, NY.

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2007, Jackson, WY	**Talbot, R.M.**, Iverson, H.L., & Lewis, M.A (2007, October). *Instructional tasks as central to linking curriculum, instruction, and assessment.* Symposium presentation at the Northern Rocky Mountain Educational Research Association Annual Conference, Jackson, WY.
2007, Chicago, IL	Briggs, D.C., Geil, K., Harlow, D., & **Talbot, R.M.** (2007, April). *Measuring the pedagogical sophistication of math and science teachers using scenario-based items.* Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.
2007, Chicago, IL	**Talbot, R.M.**, Schneider, J., Briggs, D.C., & Pollock, S.J. (2007, April). *Measuring change with the force and motion conceptual evaluation: An item-level approach using item response theory.* Paper presented as a Distinguished Paper at the American Educational Research Association Annual Meeting, Chicago, IL.
2006, Sun Valley, ID	Schneider, J., **Talbot, R.M.**, Briggs, D.C., & Pollock, S.J. (2006, October). *Using the CLASS to identify and characterize students with negative attitudes towards physics.* Paper presented at the Northern Rocky Mountain Educational Research Association Annual Conference, Sun Valley, ID.
2006, Sun Valley, ID	**Talbot, R.M.**, Schneider, J., Briggs, D.C., & Pollock, S.J. (2006, October). *Measuring change with the force and motion conceptual evaluation: An item-level approach using item response theory*. Paper presented at the Northern Rocky Mountain Educational Research Association Annual Conference, Sun Valley, ID.
2006, San Francisco, CA	Creighton, L., **Talbot, R.M.**, & Anderson, R.D. (2006, April). *Doctoral students' experiences in an interdisciplinary optical science program: Constructing a community of practice*. Poster presented at the American Educational Research Association Annual Meeting, San Francisco, CA.
1999, Boston, MA	Keating, T.M., & **Talbot, R.M.** (1999, April). *Where's the science? The growth and representation of science content in secondary school world wide web pages*. Paper presented at the National Association for Research in Science Teaching, Boston, MA.
1998, Indianapolis, IN	Keating, T.M., & **Talbot, R.M.** (1998, February). *Science content on Indiana secondary school world wide web pages.* Paper presented at the Hoosier Association of Science Teachers Annual Meeting, Indianapolis, IN.
1997, Milwaukee, WI	Keating, T.M., & **Talbot, R.M.** (1997, November). *A report on the current status of science content in secondary school world wide web pages*. Paper presented at the School Science and Mathematics Association Annual Meeting, Milwaukee, WI.

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NON-PEER REVIEWED PRESENTATIONS AT MEETINGS/CONFERENCES

INVITED PRESENTATIONS

2011, Mopani Camp, Phalaborwa, Limpopo, South Africa	**Talbot, R.M.** (2011, October). *Embedding content into an instrument designed to measure novice science and mathematics teachers' strategic knowledge: A challenge for validity.* Invited plenary session at the International Conference on Mathematics, Science, and Technology Education

NON-INVITED PRESENTATIONS

2014, Boulder, CO	**Talbot, R.M.,** and Hartley, L. (2014, October). Characterizing student engagement in a learning assistant supported biology course: the classroom as a social network. International Learning Assistant Alliance, 6th Annual Workshop, Boulder, CO.
2014, Boulder, CO	Hartley, L. and **Talbot, R.M.** (2014, October). Learning Assistants contribute to student success in large lecture courses. International Learning Assistant Alliance, 6th Annual Workshop, Boulder, CO.

SEMINARS/WORKSHOPS PRESENTED

2018, August	Buncher, J., McPadden, D., Nissen, J.M., Potvin, G., & **Talbot, R.M.** (2018). An Introduction to Data Science for Emerging Quantitative Researchers with R-Studio. Workshop at the Physics Education Research Conference, Washington, D.C.
2013-2017, Boulder, CO	Otero, V.K., Langdon, L., Boyer, J., Emenike, M., Franklin, S., Gray, K., Hartley, L., Jariwala, M., Kramer, L., Nelson, M., Quick, D., Spilios, K., **Talbot, R.M.** (2013-2017). Team Leaders for the International Learning Assistant Workshop, Boulder, CO.
2008, Austin, TX	**Talbot, R. M.**, Briggs, D., & Otero, V. (2008*). A new instrument for measuring the pedagogical knowledge of physics teachers.* Workshop given at the Physics Teacher Education Coalition Conference, Austin, TX.

PROFESSIONAL ORGANIZATIONS

- 2004-2016: American Educational Research Association (AERA)
    - SIG: Science Teaching and Learning
    - SIG: Rasch Measurement
    - Division: K Teaching and Teacher Education
- 2007-present: American Physical Society (APS)
- 2007-present: American Association of Physics Teachers (AAPT)
- 2005-present: National Association for Research in Science Teaching (NARST)
- 1997-2016: National Science Teachers Association (NSTA)
- 2011-2016: School Science and Mathematics Association (SSMA)

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PUBLICATIONS/CREATIVE WORKS IN PREPARATION

Under Review	Thompson, A.N., **Talbot, R.M.**, Doughty, L., Huvard, H., Le, P., Hartley, L., & Boyer, J. (submitted) *Development and application of the Action Taxonomy for Learning Assistants (ATLAs)*. Under review
In Preparation	Avena, J., **Talbot, R.M.**, Knight, J., Briggs, D. (In preparation) *Identifying the Cognitive Processes Targeted by Exam Items.* To be submitted to *PLOS-ONE*

COURSES TAUGHT

Course and Number	**Level**	**Department**	**Institution**
Assessment in Science Education, SECE/ELED 5800	Graduate	School of Education and Human Development	University of Colorado Denver
Elementary Science Methods, UEDU 4004/5004	Undergraduate/Graduate Teaching Licensure	School of Education and Human Development	University of Colorado Denver
Elementary Science Methods and Theory, EDUC 5215	Undergraduate/Graduate Teaching Licensure	School of Education	University of Colorado Boulder
Inquiry Science Pedagogy and Practice, SCED 4401/5401	Undergraduate/Graduate Teaching Licensure	School of Education and Human Development	University of Colorado Denver
Methods of Survey Research, RSEM 7050	Doctoral	School of Education and Human Development	University of Colorado Denver
Introduction to Measurement, RSEM 5300, RSEM 5110	Graduate	School of Education and Human Development	University of Colorado Denver
Introduction to Science Teaching and Learning, SCED 4050/5050	Course to support Learning Assistants	School of Education and Human Development	University of Colorado Denver
Math-Science Connections, ELED 5416	Graduate	School of Education and Human Development	University of Colorado Denver

1 February 2019 Practicum in Research Methods, RSEM 5910	Graduate	School of Education and Human Development	University of Colorado Denver
Principles and Methods in Secondary Education, EDUC 4122	Undergraduate/Graduate Teaching Licensure	School of Education	University of Colorado Boulder
Science and Mathematics Curriculum Studies, ELED/SECE 6110/7110	Graduate	School of Education and Human Development	University of Colorado Denver
Step 1 (EDUC 2020) and 2 (EDUC 2030) Introduction to Science Teaching	Undergraduate	CU Teach Program, College of Arts and Science and School of Education	University of Colorado Boulder

SERVICE

Membership	**Date(s)**	**Project**	**Institution/Organization**
Program leader	August 2017-present	STEM Education program area	University of Colorado Denver, School of Education and Human Development
Member	August 2016-July 2017	Teacher Education Leadership Team	University of Colorado Denver, School of Education and Human Development
Chairperson	April 2015-present	NARST Methods Research Interest Group	National Association of Research in Science Teaching
Group member	December 2014-present	Provost's HLC Reaccreditation Quality Initiative working group	University of Colorado Denver
Group member	Fall 2018-present	Provost's Instructional Quality Outcomes committee	University of Colorado Denver
Panel Member	2014, 2015, 2016	NSF grant review panels (multiple)	National Science Foundation

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Team Leader	2013-present	Learning Assistant (LA) Alliance	University of Colorado Boulder
Manuscript Reviewer	2013-present	School Science and Mathematics Journal	School Science and Mathematics Association
Member	2013 - 2015	Leadership and Finance Committee	University of Colorado Denver, School of Education and Human Development
Co-Director	2012-present	Learning Assistant (LA) Program	University of Colorado Denver, School of Education and Human Development and College of Liberal Arts and Sciences
Proposal Reviewer	2012-2014	American Educational Research Association annual meeting	American Educational Research Association
Proposal Reviewer	2015-2017	National Association for Research in Science Teaching Annual Meeting	National Association for Research in Science Teaching
Member	2012-2013	Chancellor's "Home Run" Committee	University of Colorado Denver
Member	2014-Present	Chancellor's Distinguished Lecture Selection Committee	University of Colorado Denver
Member	2016	Chancellor's Scholars Development Group	University of Colorado Denver
Member	2012-2013	By-Laws committee	University of Colorado Denver, School of Education and Human Development
Member	2012-2014	Learning Technologies Faculty Search Committee	University of Colorado Denver, School of Education and Human Development
Member	2010-present	Math Science Learning and Education (MSLE) signature area group	University of Colorado Denver, College of Liberal Arts and Sciences
Member	2010-present	Doctoral Affiliate Program Area	University of Colorado Denver, School of Education and Human Development

Member	2010-present	Mathematics & Science Program Area	University of Colorado Denver, School of Education and Human Development
Member	2010-present	Urban Community Teacher Education Program Area	University of Colorado Denver, School of Education and Human Development
Manuscript Reviewer	2010-present	Teaching and Teacher Education Journal	Teaching and Teacher Education
Manuscript Reviewer	2010-present	Journal of Research in Science Teaching	National Association of Research in Science Teaching
Manuscript Reviewer	2015-present	Physical Review Special Topics	American Physical Society
Manuscript Reviewer	2017	American Journal of Physics	American Physical Society
Manuscript Reviewer	2017-present	Contemporary Issues in Technology and Teacher Education	Society for Information Technology and Teacher Education
Proceedings submission reviewer	2016	Physics Education Research Conference	American Association of Physics Teachers
Manuscript Reviewer	2016	PLOS-ONE	PLOS
Manuscript Reviewer	2018	Journal of Geoscience Education	National Association of Geoscience Teachers

OTHER PROFESSIONAL ACTIVITIES

2011-2015: Physics curriculum advisor*,* Aurora Public Schools Physics First initiative*,* Aurora Public Schools, Aurora, CO

2012: Session chair and discussant, American Educational Research Association annual meeting, American Educational Research Association

TRAINING COURSES

April 2015: *Participant*. Power Analyses using Optimal Design, National Association of Research in Science Teaching

April 2007: *Participant.* Assessment Design: How to make inferences about learning: hands-on experience with the PADI design system, American Educational Research Association

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DOCTORAL STUDENTS

Amreen Thompson (current)
Chelsey Grassie (current)
Hannah Huvard (current)

DOCTORAL DISSERTATION COMMITTEE MEMBER

2017	Hillary Mason, current PhD student, committee member, University of Colorado Denver
2014	Katrina Marzetta, graduated PhD, Committee Member, University of Colorado Denver
2012	Ellen Shamas-Brandt, graduated, "Utilizing an Early Childhood Science Curriculum: Factors Influencing Implementation and How Variations Affect Students' Skills and Attitudes," Committee Member, University of Colorado Denver

DOCTORAL DISSERATION EXTERNAL ASSESSOR

2013	A.V. Mudau, graduated, "An Evaluation of the Teaching of Projectile Motion in Grade 12 Classrooms." External Assessor, Tshwane University of Technology, Pretoria, South Africa

AWARDS/HONORS

November 2006	Distinguished Paper Award Northern Rocky Mountain Educational Research Association
2002-2003	Teacher of the Year Elkins High School
May 2000	Armstrong Teacher Educator Award and Fellowship Indiana University