MON-LIN MONICA KO

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ACADEMIC APPOINTMENTS	Institute of Cognitive Sciences, **University of Colorado Boulder**	2022 - present
	Research Scientist II	
	Learning Sciences Research Institute, **University of Illinois at Chicago**	
	Research Assistant Professor	2019 - present
	Visiting Research Assistant Professor	2014 - 2019
	Visiting Research Specialist	2012 - 2014
EDUCATION	Ph.D. Learning Sciences, **Northwestern University**	2013
	B.S. Biology, with emphasis in Neuroscience, **Northwestern University**	2005
RESEARCH AREAS	Scientific Practices; Curriculum Enactment; Co-Design; Teacher Learning; Teacher-Researcher Partnerships; Disciplinary Literacy; Discourse Analysis; Qualitative Methods	
PODCAST	Humans of Learning Sciences [available on Apple Podcast and Spotify]	2021 - present
	Host and Producer	
BOOKS	Superfine, A. C., Goldman, S. R., & **Ko, M.-L. M.** (2022). *Teacher Learning in Changing Contexts: Perspectives from the Learning Sciences*. Taylor & Francis.	

PEER-REVIEWED ARTICLES

Ko, M.-L. M., Hall, A., & Goldman, S. R. (2022). Making Teacher and Researcher Learning Visible: Collaborative Design as a Context for Professional Growth. *Cognition and Instruction*, *40*(1), 27–54. https://doi.org/10.1080/07370008.2021.2010212

Ko, M.-L. M. (2021). Leveraging curricular and students' resources to instigate and sustain problematizing. *Science Education*, 105(6), 1315–1342. https://doi.org/10.1002/sce.21680

Ko, M.-L. M., & Krist, C. (2019). Opening up curricula to redistribute epistemic agency: A framework for supporting science teaching. *Science Education*, *103*(4), 979–1010. https://doi.org/10.1002/sce.21511

Goldman, S. R., Greenleaf, C., Yukhymenko-Lescroart, M., Brown, W., **Ko, M.-L. M**., Emig, J. M., George, M., Wallace, P., Blaum, D., & Britt, M. A. (2019). Explanatory Modeling in Science Through Text-Based Investigation: Testing the Efficacy of the Project READI Intervention Approach. *American Educational Research Journal*, *56*(4), 1148–1216. https://doi.org/10.3102/0002831219831041

CONFERENCE PROCEEDINGS

Ko, M.-L. M., Luna, M.J. (2021). Proposing a Framework for Analyzing Metadiscourse in Dialogic Science Classrooms. de Vries, E., Hod, Y., & Ahn J. (Eds.). (2021). *Proceedings of the 15th International Conference of the Learning Sciences (ICLS) 2021*, pg. 649-652: Bochum, Germany: International Society of the Learning Sciences.

Ko, M. & Krist, C. (2018). Redistributing Epistemic Agency: How Teachers Open Up Space for Meaningful Participation in Science. In Kay, J. and Luckin, R. (Eds.). *Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences (ICLS) 2018*. London, UK: International Society of the Learning Sciences.

Ko. M. & Elby, A (2018). Talking Past One Another: Looking for signs of Conversational Mismatch in One 6th grade Science Classroom In Kay, J. and Luckin, R. (Eds.). *Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences (ICLS) 2018, Volume 3, pg. 1477-1478*. London, UK: International Society of the Learning Sciences.

Wink, D. J., Goldman, S. R., Pellegrino, J. W., Gane, B. D., **Ko, M.,** Kang, R., & George, M. A. (2018). Developing Interdisciplinary Competencies for Science Teaching and Learning: A Teacher-Researcher Professional Learning Community. In Kay, J. and Luckin, R. (Eds.) *Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences* (ICLS) 2018, Volume 3. London, UK: International Society of the Learning Sciences.

Ko, M. (2014). Problematizing as Scaffold for Engaging in Scientific Argumentation. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, L. (Eds.). (2014). *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 1, pg. 54-61*. Boulder, CO: International Society of the Learning Sciences.

James, K., Goldman, S.R., **Ko, M.**, Greenleaf, C.L., Brown, W. (2014). Multiple-Text Processing in Text-Based Scientific Inquiry. Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, L. (Eds.). (2014). *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 3, pg. 1571-1572*. Boulder, CO: International Society of the Learning Sciences.

BOOK CHAPTERS	**Ko, M. - L. M.,** Goldman, S. R., Superfine, A.C. (2022). Interacting and Intersecting Contexts of Teacher Learning: Next Steps for Learning Sciences Research. In A. C. Superfine, S. R. Goldman & M. - L. M. Ko (Eds.), *Teacher Learning in Changing Contexts: Perspectives from the Learning Sciences* (pp. 279-286). Taylor & Francis.

Goldman, S. R., Hall, A., & **Ko, M. - L. M.** (2022). Co-design as an interactive context for teacher learning. In A. C. Superfine, S. R. Goldman & M. - L. M. Ko (Eds.), *Teacher Learning in Changing Contexts: Perspectives from the Learning Sciences*. (pp. 1-11). Taylor & Francis.

Goldman, S. R., **Ko, M. L - M**., Greenleaf, C., & Brown, W. (2018). Domain-specificity in the practices of explanation, modeling, and argument in the sciences. In *Scientific Reasoning and Argumentation* (pp. 131–151). New York, NY: Routledge.

Ko, M. - L. M., Goldman, S.R., Radinsky, J.R., James, K., Hall, A., Popp, J., Bolz, M., George, M. (2016) Looking under the hood: Productive messiness in design for argumentation in science, literature and history. In Svhila V. & Reeve, R. (Eds) *Untold story: Design as Scholarship In the Learning Sciences (p. 71 - 85)*. New York, NY: Routledge.

PRESENTATIONS & INVITED TALKS	Shim, S.-Y., Hall, K., Jarosewich, T., Krist, C., **Ko, M.-L. M.**, & Hug, B. (2022). Proposing a framework to analyze educative features in NGSS-aligned science curricular materials. Oral presentation at the annual meeting of the National Association for Research in Science Teaching (NARST), Vancouver, BC, Canada.

Krist, C., **Ko, M.** (2019) *Epistemic Ripple Effects: Strategically Opening Up Space in Curriculum Materials to Re-distribute Epistemic Agency*. Poster presented at the American Education Research Association, Toronto, Canada. April 5-9.

* Indicates Teacher Partner

Wink, D., Gane, B., **Ko, M**., Goldman, S., Pellegrino, & J., Zeller, L. (2019). Developing three-dimensional assessment literacy for science teaching and learning: A teacher-

researcher professional learning community. Presentation at the 2019 NSTA National Conference on Science Education, St. Louis, MO. April 11-14.

Ko, M., Luna, M. J. (2019) *Unpacking Talk in a Dialogic Science Classroom through an Analysis of Metadiscourse.* Poster presented at the American Education Research Association, Toronto, Canada. April 5-9.

Zaidi, S.Z., **Ko, M.**, Gane, B.D., Madden, K., Gaur, D., & Pellegrino. J.W. (2018). *Portraits of teachers using three-dimensional assessment tasks to inform instruction.* Paper presented at the NARST Annual International Conference, Atlanta, GA. March 10-13.

Ko, M., Goldman, S.R., Greenleaf, C., Brown, W. (2017) *Supporting Literacy as Science Practice.* Paper presented at the National Association for Research in Science Teaching, San Antonio, TX, April 22-25.

Ko, M., Goldman S.R. (2017) *Opportunity to Learn Science: Changing Teacher Practice, Changing Student Outcomes.* Poster presented at American Education Research Association, San Antonio, Texas, April 27-May 1.

Ko, M., Fortune, A., Goldman, S.R. (2017) *Opportunities and Challenges of Engaging Teachers as Co-designers to Support Reading for Understanding in Science.* Poster presented at American Education Research Association, San Antonio, Texas, April 27-May 1.

*Baldwin, P., **Ko, M.** (2015) *Teaching Argumentation in an Introductory ESL Science Classroom.* Presented at the National Science Teachers' Association conference, Kansas City, MO, December 3-5.

*McIntyre, K., **Ko, M.** (2015) *Reading Informational Text in the Science Classroom to Construct Explanatory Models.* Presented at the National Science Teachers' Association conference, Kansas City, MO, December 3-5.

Ko, M., James, K., Burkett, C., Goldman, S.R., Greenleaf, C.L., Brown, W.R. (2015) *Text-based Inquiry For Scientific Modeling.* Paper presented at National Association of Research in Science Teaching, Chicago, IL, April 11-14.

Ko, M., James, K., Burkett, C., Goldman, S.R., Greenleaf, C.L., Brown, W.R. (2015) *Repositioning Texts as Objects of Inquiry and Tools for Science Practice.* Poster presented at American Education Research Association, Chicago, IL, April 16-20.

Britt, A., Blaum, D., Wallace, P., **Ko, M.,** Goldman, S.R. (2015) *Multiple Representations in Science Learning and Assessment.* Paper presented at American Education Research Association, Chicago, IL, April 16-20.

Greenleaf, C., Brown, W., Goldman, S.R., & **Ko, M.** (2013). READI for science: Promoting scientific literacy practices through text-based investigations for middle and high school science teachers and students. Washington, D.C.: National Research Council.

Ko, M. (2013). *The Use of Students' Everyday and Knowledge and Evidence in Generating Explanations.* Paper presented at National Association of Research in Science Teaching, Rio Grande, Puerto Rico, April 6-9.

Krist, C., **Ko, M.** (2013) *How Teachers Take Up Students' Everyday Ideas during Investigation.* Paper presented at National Association of Research in Science Teaching, Rio Grande, Puerto Rico, April 6-9.

Buckingham, B.L.E., & **Ko, M.** (2013) *Using Classroom Discourse to Account for Differences in the Causal Coherency of Written Explanations.* Paper presented at the National Association for Research in Science Teaching, Rio Grande, Puerto Rico, April 6-9.

Ko, M. & Reiser, B.J. (2012). *Delineating a multidimensional practice: Bringing clarity to the*

challenges of engaging students in scientific practice. Paper presented at National Association of Research in Science Teaching, Indianapolis, IN, March 25-28.

Ko, M. & Reiser, B.J. (2011) *Understanding scientific practices in action: Understanding Variation in Teachers' Enactments of Scientific Practices in the Classroom.* Poster presented at National Association of Research in Science Teaching, Orlando, FL, April 3-6.

Ko, M. & Reiser, B.J. (2010) *Connections, clarity and logistics: science teacher's enactments of reform-based science curricula.* Paper presented at American Education Research Association, Denver, CO, April 30 – May 4. SIG-LS/ATL Best Student Award – Honorable Mention.

TECHNICAL REPORTS	**Ko, M.,** Brown, W., Greenleaf, C., James, K., & George, M. (2016). Studying the implementation of text-based investigations on water in middle school classrooms: lessons from collaborative design-based research. Project READI Technical Report #19

Ko, M., Brown, W.; Greenleaf, C., & Goldman, S.R. (2016). Studying the implementation of text-based investigations on MRSA in middle school science classrooms: Lessons from collaborative design-based research. Project READI Technical Report #21

Ko, M., Brown, W.; Greenleaf, C., Goldman, S, Sela, R., Childress, E., & Juareguy, A. (2013). Developing and implementing a reading models mini-unit to support evidence-based argumentation in science. Project Project READI Technical Report #22

Ko, M., James, K., Brown, W., Greenleaf, C., & Goldman, S.R. (2016). Developing and refining text-based investigations on homeostasis in high school classrooms: Lessons from collaborative design-based research. Project READI Technical Report #23

Greenleaf, C., Brown, W., **Ko, M.,** Hale, G., Sexton, U., James, K. & George, M. (2016). Updated Design Rationale, Learning Goals, and Hypothesized Progressions for Text-Based Investigations in Middle and High School Science Classrooms. Project READI Technical Report #25

Goldman, S. R., Greenleaf, C., and Yukhymenko-Lescroart, M., with Brown, W., **Ko, M.,** Emig, J., George, M., Wallace, P., Blum, D., Britt, M.A. & Project READI. (2016). Preliminary Explanatory modeling in science through text-based investigation: Testing the efficacy of the READI intervention approach. Project READI Tech Report #27

CURRICULUM MATERIALS	**Ko, M**., Sarna, J., Stites, J., Goldman, S., Brown, W., James, K., & Greenleaf, C. (2016). Life Sciences: Homeostasis High School, 9th Grade.

Ko, M., Brown, W., Greenleaf, C., George, M., & Goldman, S.R. (2016). Life Sciences: The Spread of MRSA, Middle School, 6th Grade, Spring 2013.

Brown, W., **Ko, M**., Greenleaf, C., Sexton, U., George, M., Goldman, S. with science teachers in California Teacher Inquiry Network. (2016). Life Sciences: The Spread of MRSA, High School, 9th Grade, RCT Fall 2014.

Hale, G., **Ko, M.,** Brown, W., Greenleaf, C., Sexton, U., James, K., Singer, L., George, M., & Rodriquez, C. (2016). Earth Science: How are Humans Impacting Water Middle School, 8th Grade, Spring 2013.

Ko, M., Brown, W., James, K., Singer, L., George, M., Greenleaf, C., & Goldman, S.R. (2016). Reading Science Models Middle School, 6th Grade.

RESEARCH EXPERIENCE		
	National Institute of Health EMPOWER: Enacting Materials to Promote OWnership, Engagement and Relevance $1,205,932 *Principal Investigator*	11/1/22 – 8/30/27
	James S. McDonnell Foundation How Teachers Learn: Orchestrating Disciplinary Discourse in Science, Literature, and Mathematics Classrooms. $ 2,496,120 *Co-Principal Investigator*	1/1/18 – 12/31/24
	Digital Promise and Carnegie Corporation of New York Characterizing Teachers' Curriculum Enactment to Inform the Design of Professional Learning $9,000 *Principal Investigator*	3/1/22 – 9/30/22
	University of Illinois at Chicago Incorporating the Humanities into Elementary Science Curricula to Support Climate Justice Inquiry $ 5,000 *Co-Principal Investigator*	1/1/22 – 10/31/22
	University of Illinois at Chicago Storybooks, Inquiry, and Art on the Urban Farm: Exploring Sustainable Food Practices with Children $9,575 *Co-Principal Investigator*	5/1/22 – 5/31/23
	U.S. Department of Education Stackable, Instructionally-embedded, Portable Science (SIPS) Assessments $649,983 *Senior Investigator*	1/1/21 – 9/16/21
	Illinois State Board of Education Illinois Science Assessment Partnership-Item Development and Scoring $731,965 *Senior Investigator*	4/1/20 – 10/1/21
	Chan Zuckerberg Initiative Equipping Middle School Teachers with Resources to Monitor the Progress of Their Students' Learning $ 1,000,000 *Senior Investigator*	1/1/19 – 6/30/20

	National Science Foundation Assessment Literacy for the Development of Teacher Understanding with the Next Generation Science Standards. $ 1,499,856 *Senior Investigator*	7/1/16 – 12/31/19; 10/1/21 - 5/31/22
	Betty and Gordon Moore Foundation Designing Next Generation Assessments of Science Learning $1,709,015 *Senior Investigator*	6/18/15 – 5/31/19
	Institute of Education Sciences Reading for Understanding Across Grades 6 through 12: Evidence-Based Argumentation for Disciplinary Learning $19,256,585 *Research Specialist*	7/1/10 – 6/30/16
	National Science Foundation DRL-1020316 Supporting Scientific Practices in Elem. and Middle School Classrooms $ 3,495,230.00 *Graduate Research Assistant*	9/10/10 – 8/31/17
	National Science Foundation REC-0440338 ROLE: Understanding the Connection Between Science Achievement and Reading Achievement $ 1,279,143 *Teacher Design Partner*	2/1/05 – 1/31/09
FELLOWSHIPS & AWARDS	**Mid-Career Workshop participant** International Conference on Computer-Supported Collaborative Learning (CSCL)	2019
	Doctoral Fellow *Northwestern University* Center for Curriculum Materials in Science National Science Foundation ESI-0227557	2008 – 2010
	Doctoral Consortium participant International Conference of the Learning Sciences (ICLS)	2012
	Dissertation Year Fellowship Northwestern University	2012
	Best Student Paper: Honorable Mention AERA SIG-Learning Sciences and SIG-Advanced Technologies for Education.	2010
	Conference Travel Grants Northwestern University	2008 – 2010
	Northwestern University Fellow	2007 – 2008
	Excellence in Teaching Award & Outstanding Team Leader Woodrow Wilson High School, Camden, NJ	2007

TEACHING	**Instructor**	2010
	New Approaches to Science Teaching: Theory and Practice	
	Teaching Assistant	
	New Approaches to Science Teaching: Theory and Practice	2008 – 2009
	Professional Development Designer & Facilitator	
	Project READI: Reading and Evidence-based Argument in Disciplinary Instruction	2012 – 2014
	Investigating and Questioning our World Through Science and Technology (IQWST)	2011
	High school science teacher	2008 – 2010
	Biology and Environmental Science	
	Woodrow Wilson High School	
SERVICE	**Ad Hoc Reviewer**	
	Science Education	2013 - present
	Journal of Learning Sciences	2019 - present
	Journal of Research in Science Teaching	2019 - present
	Journal of Literacy Research	2021 - present
	Journal of Engineering Education	2021 - present
	American Education Research Journal	2021 - present
	Advisory Committee member	2019 – 2021
	Learning Sciences Research Institute	
PROFESSIONAL AFFILIATIONS	American Educational Research Association (AERA)	
	Division C – Learning and Instruction	
	SIG – Learning Sciences	
	National Association of Research in Science Teaching (NARST)	
	International Society of Learning Sciences (ISLS)	