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Professor of Mathematics Education
Department of Education
Tufts University
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Tufts University
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EDUCATION

Doctor in Education (Ed.D.). Harvard University Graduate School of Education, Cambridge, MA. 2001

Master of Arts, General Studies in Education. Tufts University, Medford, MA. 1996

Licenciada en Ciencias Pedagógicas. Universidad de Belgrano, Bs. As., Argentina. 1993

Licenciada en Psicopedagogía. Universidad de Belgrano. 1993

Técnica en Construcción y Usos de Instrumentos de Evaluación. Universidad de Belgrano. 1991

EMPLOYMENT

HIGHER EDUCATION EXPERIENCE

TUFTS UNIVERSITY SCHOOL OF ARTS & SCIENCES, Medford, Massachusetts.

July 2014-ongoing: Dean of Academic Affairs for Arts & Sciences

- Oversee Office of Faculty Affairs (searches, hires, contracts, reviews, faculty retention, faculty development, developing systems for communication with departments and reporting of faculty activities, develop and implement systems for tracking of data and information).
- Represented administration on bargaining teams for two Collective Bargaining Agreements: (1) with part-time lecturers and (2) with full-time lecturers.
- Supervise a diverse portfolio of departments and programs including the departments of Chemistry; Economics; English; History; Music; Philosophy; Physics & Astronomy; Political Science; Psychology; Sociology; and Theatre, Dance, and Performance Studies; and the interdisciplinary programs of Civic Studies; Environmental Studies; International Relations; Latin American Studies; Middle Eastern Studies; and the Consortium for the Study of Race, Colonialism, and Diaspora (RCD; which includes Africana Studies, American Studies, Asian American Studies, Latino Studies, and Colonialism Studies).
- Supported faculty in the development of majors (Civic Studies) and minors (Applied Computational Science, Food Systems and Nutrition).
- Worked with faculty to develop the transition of the RCD Consortium into a new department that will launch in July 2019.
- Developed new mentoring program for Associate Professors.
- Led school-wide workload exploration and development and implementation of workload guidelines.

TUFTS UNIVERSITY DEPARTMENT OF EDUCATION, Medford, Massachusetts.

2015-ongoing: Full Professor. Affiliate Faculty, Cognitive Science PhD program.

2007-2015: Associate Professor (with tenure).

Fall 2009-August 2012: Department Chair.

Fall 2009-August 2014: Director, STEM Education Program.

Fall 2007: Acting Department Chair; Acting Director, Mathematics, Science, Technology, and Engineering Education Program.

2001-2007: Assistant Professor.

UNIVERSIDAD NACIONAL DEL COMAHUE, Centro Regional Universitario Bariloche, Patagonia, Argentina. Spring 2009. Visiting Professor (Fulbright Scholar).

TUFTS UNIVERSITY DEPARTMENT OF EDUCATION, Medford, Massachusetts. 2000-2001.

Lecturer. Courses: Human Development and Learning; Seminar in Psychological Studies in Education; Research Seminar I and II.

UNIVERSIDAD ORT, Montevideo, Uruguay. Summer 1999. Lecturer. Research Methods Seminar.

TUFTS UNIVERSITY DEPARTMENT OF EDUCATION, Medford, Massachusetts. Fall, 1997.

Lecturer. Course: Human Development and Learning.

HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, Massachusetts. Fall, 1998, Fall 1999. Teaching Fellow. Course: Teaching and Learning. Instructors: Prof. Eleanor Duckworth, Prof. Steve Seidel.

RESEARCH EXPERIENCE

TERC, Cambridge, Massachusetts. 1999-2001. Research Associate.

HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, Massachusetts. Spencer Foundation Research Training Fellow. 1999-2000

HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, Massachusetts. Spencer Foundation Research Training Fellow. Mentor: Prof. Jeanne Bamberger (MIT), 1998-1999

DEPARTMENT OF EDUCATION, Tufts University, Medford, Massachusetts. Research Assistant. Prof. Analúcia D. Schliemann, 1997-1999

DEPARTAMENTO DE INVESTIGACIONES EDUCATIVAS, CINVESTAV, México. Visiting Scholar. Mentor: Prof. Emilia Ferreiro, Jan-Feb. 1998

HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, Massachusetts. Spencer Research Training Fellow. Mentor: Prof. Martha J. García-Sellers (Tufts University), 1997-1998

SECRETARÍA DE EDUCACIÓN, MUNICIPALIDAD DE LA CIUDAD DE BUENOS AIRES, Argentina. Research Assistant. Department of Educational Research, October 1991-December 1992

K-12 TEACHING EXPERIENCE

JUMPSTART BOSTON, Boston, Massachusetts. Summer, 1997. Teacher and Supervisor.

ACADEMIA ARGÜELLO, Córdoba, Argentina. March 1993-December 1994. English Teacher.

NORTHLANDS SCHOOL, Buenos Aires, Argentina. March 1990-December 1992. Kindergarten Teacher.

GOBLINS BILINGUAL KINDERGARTEN, Buenos Aires, Argentina. March 1989-December 1989. Kindergarten Teacher.

GOBLINS BILINGUAL KINDERGARTEN, Buenos Aires, Argentina. March 1988-December 1988. Teaching Aide.

PROFESSIONAL EXPERIENCE

HARVARD UNIVERSITY GRADUATE SCHOOL OF EDUCATION, Cambridge, Massachusetts. Tutor for the Harvard University - Universidad ORT Uruguay Project. 1996-2000

EDICIONES MANANTIAL, Buenos Aires, Argentina. Editorial Consultant. 1999

ACADEMIA ARGÜELLO, Córdoba, Argentina. Psychopedagogue in the Orientation Department. March 1994-December 1994

HONORS

- Teaching and Mentoring Award. Graduate School of Arts & Sciences. Tufts University. 2012
- Honorable Mention for Best Paper in ASEE K-12 Division (Portsmore & Brizuela). 2011
- Fulbright Senior Scholar. Bariloche, Argentina. 2009
- Spencer Foundation Research Grant. 2008-2009
- Schuster Faculty Fellow in Arts & Sciences. Tufts University. 2008-2009

- Winner of "Distinguished Achievement Award" from the Association of Educational Publishers for *Building Math Series*. 2008.
- Spencer Foundation Fellow. Harvard Graduate School of Education. 1997-2000
- Roy E. Larsen Fellow. Harvard University Graduate School of Education. 1996-1997
- Tuition Scholarship. Graduate School of Arts and Sciences, Tufts University. 1995-1996
- Graduated with honors from Universidad de Belgrano. 1992
- Full Merit Scholarship. Universidad de Belgrano. 1992
- Tuition Scholarship. Universidad de Belgrano. 1990
- All round excellence cup. Northlands School, Buenos Aires, Argentina. 1987

PUBLICATIONS

(single underline indicates a graduate student; double underline indicates a post-doctoral associate/fellow or mentee)

SCHOLARLY BOOKS:

1. Schliemann, A. D., Carraher, D., & **Brizuela, B. M.** (2007). *Bringing Out the Algebraic Character of Arithmetic: From Children's Ideas to Classroom Practice*. Mahwah, NJ: Lawrence Erlbaum and Associates.
Translated as: Schliemann, A. D., Carraher, D., & **Brizuela, B. M.** (2011). *El carácter algebraico de la aritmética: de las ideas de los niños a las actividades en el aula*. Buenos Aires: Editorial Paidós.
2. **Brizuela, B. M.** (2004). *Mathematical Development in Young Children: Exploring Notations*. NY: Teachers College Press.
Translated as: **Brizuela, B. M.** (2006). *Desenvolvimento matematico na criança: Explorando notações*. Porto Alegre, Brazil: Artmed Editora.

Review: Warren, E. (2007). Children's Invented Notations as Insights Into Mathematical Thinking: A Review of *Mathematical Development in Young Children: Exploring Notations*. *Journal for Research in Mathematics Education*, 38(3), 322-326.

EDITED VOLUMES:

1. Cañadas, M. C., Blanton, M., & **Brizuela, B. M.** (2019, forthcoming). (Eds.) Early algebraic thinking. *Journal for the Study of Education and Development/Infancia y Aprendizaje*, 42(3).
2. **Brizuela, B. M.**, & Scheuer, N. (2016). (Eds.) Dynamic aspects of cognitive development and learning. *Journal for the Study of Education and Development/Infancia y Aprendizaje*, 39(4).
3. **Brizuela, B. M.**, & Gravel, B. E. (2013). (Eds.) "Show me what you know" *Exploring representations across STEM disciplines*. New York: Teachers College Press.
Translated as: **Brizuela, B. M.**, & Gravel, B. E. (forthcoming). Contract signed with Teachers College Press to be translated by Antonio Machado Libros, Madrid, Spain.
4. Alvarado, M., & **Brizuela, B. M.** (Eds.) (2005). *Haciendo números. Las notaciones numéricas vistas desde la psicología, la didáctica y la historia*. México: Editorial Paidós.
5. **Brizuela, B. M.**, Stewart, J. P., Carrillo, R. G., & Berger, J. G. (Eds.). (2000). *Acts of inquiry in qualitative research*. Cambridge, MA: Harvard Educational Review.

ARTICLES IN REFEREED JOURNALS:

Under review:

1. Cao, Y., & **Brizuela, B. M.** (major revisions). *Setting up the story: High school students' visual narratives of electric fields*. Manuscript under review.

1. Scheuer, N., Martí, E., Cavalcante, S., & **Brizuela, B. M.** (accepted). Response patterns of young children from two contrasting SES contexts to different numerical tasks with numbers one to five. *The Journal of Genetic Psychology*.
2. Cañadas, M. C., Blanton, M., & **Brizuela, B. M.** (2019, forthcoming). Early algebraic thinking. *Journal for the Study of Education and Development/Infancia y Aprendizaje*, 42(3).
3. Blanton, M., Otalora Sevilla, Y. F., **Brizuela, B. M.**, Sawyer, K., Gardiner, A. M., Gibbins, A., & Kim, Y. (2018). Exploring Kindergarten Students' Early Notions of Mathematical Equivalence. *Mathematical Thinking and Learning*, 20(3), 167-201.
4. **Brizuela, B. M.** (2018). Editorial. Looking towards the future: Openness, dialogue, and connection / Editorial. Mirando al futuro: Apertura, diálogo y conexión. *Journal for the Study of Education and Development/Infancia y Aprendizaje*, 41(1), 1-12.
5. Morales, R., Cañadas, M. C., **Brizuela, B. M.**, & Gómez, P. (2018). Relaciones funcionales y estrategias de alumnos de primero de educación primaria en un contexto funcional. *Enseñanza de las Ciencias. Revista de investigación y experiencias didácticas*, 36(3), 59-78.
6. Blanton, M., **Brizuela, B. M.**, Gardiner, A. M., Sawrey, K., & Newman-Owens, A. (2017). A Progression in First-Grade Children's Thinking About Variable and Variable Notation in Functional Relationships. *Educational Studies in Mathematics*, 95, 181–202.
7. **Brizuela, B. M.** (2016). Variables in Elementary Mathematics Education. *Elementary School Journal*, 117(1), 46-71.
8. **Brizuela, B. M.**, & Scheuer, N. (2016). Investigating cognitive change as a dynamic process/Investigar el cambio cognitivo como proceso dinámico. *Journal for the Study of Education and Development/Infancia y Aprendizaje*, 39(4), 1–34.
9. Caddle, M., Bautista, A., **Brizuela, B. M.**, & Sharpe, S. (2016). Evaluating mathematics teachers' professional development motivations and needs. *Journal of Research in Mathematics Education/Revista de Investigación en Didáctica de las Matemáticas (REDIMAT)*, 5(2), 112-134. doi:10.4471/redimat.2016.2093
10. Caddle, M., & **Brizuela, B. M.** (2016). Multiplication Principle Problems And Permutation Problems. *The Mathematics Teacher*, 109(6), 463-467.
11. Cañadas, M. C., **Brizuela, B. M.**, & Blanton, M. (2016). Second graders articulating ideas about co-variation with linear functions. *Journal of Mathematical Behavior*, 41, 87-103.
12. Cao, Y., & **Brizuela, B. M.** (2016). High school students' representations and understandings of the electric field in use of arrow diagrams. *Physical Review Physics Education Research*, 12(2), 020102.
13. Martí, A., Scheuer, N., Cavalcante, S., Trench, M., & **Brizuela, B. M.** (2016). Symbolic Representation of the Number Three: A Study with Three-year-old Children from Contrasting Socioeconomic Environments. *Journal of Cognitive Psychology*, DOI: 10.1080/20445911.2016.1188821
14. Wilkerson-Jerde, M., Bautista, A., Tobin, R., **Brizuela, B. M.**, & Cao, Y. (2016). More than Meets the Eye: Patterns and Shifts in Middle School Mathematics Teachers' Descriptions of Models. *Journal of Mathematics Teacher Education*, 19(2-3).
15. Bautista, A., Cañadas, M. C., **Brizuela, B. M.**, & Schliemann, A. D. (2015). Examining How Teachers Use Graphs to Teach Mathematics in a Professional Development Program. *Journal of Education and Training Studies*, 3(2), 91-106.
16. Blanton, M., **Brizuela, B. M.**, Gardiner, A., Sawrey, K., & Newman-Owens, A. (2015). A Learning Trajectory in Six-Year-Olds' Thinking about Generalizing Functional Relationships. *Journal for Research in Mathematics Education*, 46(5), 511-558.
17. **Brizuela, B. M.**, Blanton, M., Gardiner, A. M., Newman-Owens, A., & Sawrey, K., (2015). A first grade student's exploration of variable and variable notation / Una alumna de primer grado explora las variables y su notación. *Estudios de Psicología: Studies in Psychology*, 36(1), 138-165.

18. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Newman-Owens, A., & Gardiner, A. M. (2015). Children's Use Of Variables and Variable Notation To Represent Their Algebraic Ideas. *Mathematical Thinking and Learning*, 17, 1-30.
19. Cao, Y., & **Brizuela, B. M.** (2015). A Chinese Young Adult Non-Scientist's Epistemologies and Her Understandings of the Concept of Speed. *International Journal of Mathematical Education in Science and Technology*, 46(6), 895-915, DOI: 10.1080/0020739X.2015.1023857.
20. Sawrey, K., **Brizuela, B. M.**, & Blanton, M. (2015). Student-Produced Representations as a Means for Interrupting the Flow of an Interview / Representaciones producidas por una alumna para interrumpir el flujo de una entrevista. *Estudios de Psicología: Studies in Psychology*, 36(1), 185-192.
21. Bautista, A., **Brizuela, B. M.**, Glennie, C., & Caddle, M. (2014). Mathematics teachers attending and responding to students' thinking: Diverse paths across diverse assignments. *International Journal for Mathematics Teaching and Learning*. July Volume (28 pages).
22. Bautista, A., Wilkerson-Jerde, M. H., Tobin, R. G., & **Brizuela, B. M.** (2014). Mathematics teachers' ideas about mathematical models: A diverse landscape. *PNA*, 9(1), 1-28.
23. **Brizuela, B. M.**, & Blanton, M. (2014). El desarrollo del pensamiento algebraico en niños de escolaridad primaria. *Revista de Psicología-Segunda Época (UNLP)*, 14, 37-57.
24. **Brizuela, B. M.**, Martinez, M. V., & Cayton-Hodges, G. A. (2013). The Impact of Early Algebra: Results from a Longitudinal Intervention. *Journal of Research in Mathematics Education/Revista de Investigación en Didáctica de las Matemáticas (REDIMAT)*, 2(2), 209-241.
25. Martinez, M. V., & **Brizuela, B. M.** (2013). Algebraic Modeling in a Proof Context. *Journal of Mathematics Education. Education for All*, 6(2), 70-81.
26. Bautista, A., Pérez Echeverría, M. P., Pozo, J. I., & **Brizuela, B. M.** (2012). Piano students' conceptions of learning, teaching, assessment, and evaluation. *Estudios de Psicología*, 33(1), 79-104.
27. Schliemann, A. D., Carraher, D. W., & **Brizuela, B. M.** (2012). Algebra in Elementary School. In Coulange, L., Drouhard, J.-P., Dorier, J.-L., Robert, A. (Eds.) *Recherches en Didactique des Mathématiques, Numéro spécial hors-série, Enseignement de l'algèbre élémentaire: bilan et perspectives* (pp. 103-118). Grenoble: La Pensée Sauvage.
28. Caddle, M., & **Brizuela, B. M.** (2011). Fifth Graders' Additive And Multiplicative Reasoning: Establishing Connections Across Conceptual Fields Using A Graph. *Journal of Mathematical Behavior*, 30(3), 224-234.
29. Martinez, M. V., **Brizuela, B. M.**, & Castro Superfine, A. (2011). Integrating Algebra and Proof in High School Mathematics: An Exploratory Study. *Journal of Mathematical Behavior*, 30, 30-47.
30. **Brizuela, B. M.**, & Alvarado, M. (2010). First graders' work on additive problems with the use of different notational tools. *Revista IRICE Nueva Época*, 21, 37-44.
31. **Brizuela, B. M.**, & Cayton, G. A. (2010). Anotar números desde pre-escolar hasta segundo grado: el impacto del uso de dos sistemas de representación en la presentación. *Cultura & Educación*, 22(2), 149-167.
32. Bautista, A., Pérez Echeverría, M. del P., Pozo, J. I., & **Brizuela, B. M.** (2009). Piano students' conceptions of musical scores as external representations: A cross-sectional study. *Journal of Research in Music Education*, 57(3), 181-202.
33. **Brizuela, B. M.**, & Cayton, G. (2008). The roles of punctuation marks while learning about written numbers. *Educational Studies in Mathematics*, 68, 209-225.
34. **Brizuela, B. M.** (2006). Young children's notations for fractions. *Educational Studies in Mathematics*, 62(3), 281-305.
Translated as: **Brizuela, B. M.** (2008). Notaciones empleadas por los niños para representar fracciones. *12(ntes) Enseñar Matemática. Nivel Inicial y Primaria*, 3, 19-40.

35. Carraher, D. W., Schliemann, A. D., **Brizuela, B. M.**, & Earnest, D. (2006) Arithmetic and Algebra in Early Mathematics Education. *Journal for Research in Mathematics Education* 37(2), 87-115.
36. Martinez, M. V., & **Brizuela, B. M.** (2006). A third grader's way of thinking about linear function tables. *Journal of Mathematical Behavior*, 25(4), 285-298.
37. Carraher, D. W., Schliemann, A. D., & **Brizuela, B. M.** (2005). Treating the operations of arithmetic as functions. [Videopaper]. In D. W. Carraher & R. Nemirovsky (Eds.), *Medium and meaning: Video papers in mathematics education research*, *Journal for Research in Mathematics Education* Monograph, Vol. XIII. 2005. [On CD-ROM]. 11 min. video (204 MB), 34 pages text (170 KB), 32 images (974 KB).
38. **Brizuela, B. M.**, & Schliemann, A. D. (2004). Ten-year-old students solving linear equations. *For the Learning of Mathematics*, 24(2), 33-40.
Translated as: **Brizuela, B. M.**, & Schliemann, A. D. (2008). Alumnos de diez años de edad resolviendo ecuaciones lineales. *12ntes. Enseñar Matemática Nivel Inicial y Primario*, 5, 7-24.
39. **Brizuela, B. M.**, & Lara-Roth, S. (2002). Additive relations and function tables. *Journal of Mathematical Behavior*, 20(3), 309-319.
40. **Brizuela, B. M.** (1999). Editor's Review. *Harvard Educational Review*, 69(4), 474-481.
41. **Brizuela, B. M.**, & Sellers-García, M. J. (1999). School adaptation: A triangular process. *American Educational Research Journal*, 36(2), 345-370.
42. Soler-Gallart, M., & **Brizuela, B. M.** (1998). Cultural Action for Freedom: Editors' Introduction. *Harvard Educational Review*, 68(4), 471-475.
43. **Brizuela, B. M.** (1997). Inventions and conventions: A story about capital numbers. *For the Learning of Mathematics*, 17(1), 2-6.
Translated as: **Brizuela, B. M.** (1998). Invenções e convenções: Uma história sobre números maiúsculos. In A. Schliemann & D. Carraher (Orgs.), *A compreensão de conceitos aritméticos. Ensino e pesquisa* (pp. 39-52). São Paulo: Papirus Editora.

BOOK CHAPTERS:

1. Blanton, M., **Brizuela, B. M.**, Stephens, A., Knuth, E., Isler, I., Gardiner, A., Stroud, R., Fonger, N., & Stylianou, D. (2018). Implementing a Framework for Early Algebra. In C. Kieran (Ed.), *Teaching and Learning Algebraic Thinking with 5- to 12-Year-Olds: The Global Evolution of an Emerging Field of Research and Practice, ICME-13 Monographs* (pp. 27-49). Cham, Switzerland: Springer International Publishing.
2. Stephens, A., Ellis, A., Blanton, M., & **Brizuela, B. M.** (2017). Algebraic thinking in the elementary grades. In J. Cai (Ed.), *Compendium for research in mathematics education* (pp. 386-429). NCTM: Reston, VA.
3. Carraher, D. W., Schliemann, A. D., **Brizuela, B. M.**, & Earnest, D. (2016). Arithmetic and algebra in mathematics education. In E. Silver & P. Kenney (Eds.), *More Lessons Learned from Research: Volume 2. Helping All Students Understand Important Mathematics* (pp. 109-122). Reston, VA: NCTM.
4. Alvarado, M., & **Brizuela, B. M.** (2013). Herramientas notacionales en la solución de problemas aditivos con niños de primer año de primaria. In C. Broitman (Ed.), *Matemáticas en la escuela primaria [II]. Saberes y conocimientos de niños y docentes* (pp. 99-119). Buenos Aires: Editorial Paidós.
5. Bautista, A., **Brizuela, B. M.**, & Ko, Y.-Y. (2013). Middle school mathematics teachers' implicit conceptions about multiple representations for functions. In D. Halkias (Ed.), *Psychology and the Search for Certainty in Everyday Life* (pp. 31-48). Athens: ATINER.
6. **Brizuela, B. M.** (2013). La coherencia local y lógica en las producciones de notaciones numéricas en niños de 5 años de edad. In C. Broitman (Ed.), *Matemáticas en la escuela primaria*

- [1]. *Números naturales y decimales con niños pequeños* (pp. 129-146). Buenos Aires: Editorial Paidós.
7. **Brizuela, B. M.**, & **Cayton, G.** (2013). Young Children's Self-Constructed Maps. In B. M. Brizuela & B. E. Gravel (Eds.), *"Show me what you know" Exploring representations across STEM disciplines* (pp. 22-42). NY: Teachers College Press.
 8. **Brizuela, B. M.**, & **Gravel, B. E.** (2013). Introduction. In B. M. Brizuela & B. E. Gravel (Eds.), *"Show me what you know" Exploring representations across STEM disciplines* (pp. 1-4). NY: Teachers College Press.
 9. **Gravel, B. E.**, Scheuer, N., & **Brizuela, B. M.** (2013). Using representations to reason about air and particles. In B. M. Brizuela & B. E. Gravel (Eds.), *"Show me what you know" Exploring representations across STEM disciplines* (pp. 163-182). NY: Teachers College Press.
 10. **Brizuela, B. M.**, & **Martinez, M. V.** (2012). Aprendizaje de la comparación de funciones lineales. In M. Carretero, J. A. Castorina, & A. Barreiro (Eds.), *Desarrollo Cognitivo y Educación: Procesos de Conocimiento y Contenidos Específicos* (vol. 2, pp. 263-286). Buenos Aires: Editorial Paidós.
Translated as: **Brizuela, B. M.**, & **Martinez, M. V.** (2014). Aprendendo a comparação de funções lineares. In M. Carretero, J. A. Castorina, & A. Barreiro (Eds.), *Desenvolvimento Cognitivo e Educação: Processos do Conhecimento e Conteúdos Específicos* (vol. 2, pp. 246-267). São Paulo, Brazil: Penso Editora.
 11. **Brizuela, B. M.**, & Earnest, D. (2008). Multiple notational systems and algebraic understandings: The case of the "best deal" problem. In J. Kaput, D. Carraher, & M. Blanton (Eds.), *Algebra in the Early Grades* (pp. 273-301). Mahwah, NJ: Lawrence Erlbaum and Associates.
 12. Alvarado, M., & **Brizuela, B. M.** (2005). Introducción. In M. Alvarado & B. M. Brizuela (Eds.) *Haciendo números. Las notaciones numéricas vistas desde la psicología, la didáctica y la historia* (pp. 9-12). México: Editorial Paidós.
 13. **Brizuela, B. M.** (2005). Relaciones entre representaciones: el caso de Jennifer, Nathan y Jeffrey. In M. Alvarado & B. M. Brizuela (Eds.) *Haciendo números. Las notaciones numéricas vistas desde la psicología, la didáctica y la historia* (pp. 198-219). México: Editorial Paidós. (Spanish version of chapter in "Mathematical Development in Young Children: Exploring Notations".)
 14. **Brizuela, B. M.** (2003). Números y letras: Primeras conexiones entre sistemas notacionales. In A. Teberosky & M. Soler-Gallart (Eds.), *Contextos de alfabetización inicial* (pp. 133-154). Barcelona: Editorial Horsori.
 15. **Brizuela, B. M.** (2000). Algunas ideas sobre el sistema de numeración escrito en niños pequeños. In N. Elichiry (Ed.), *Aprendizaje de niños y maestros. La construcción del sujeto educativo* (pp. 15-27). Buenos Aires: Ediciones Manantial.
 16. Soler-Gallart, M., & **Brizuela, B. M.** (2000). Editors' introduction. In P. Freire, *Cultural action for freedom* (pp. 1-5). Cambridge, MA: Harvard Educational Review.

PAPERS IN REFEREED CONFERENCE PROCEEDINGS

1. **Cao, Y.** & **Brizuela, B. M.** (2016). High school students' group interaction with the Electric Field Hockey computer simulation. In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto, & K. Hahl (Eds.), *Science education research: Engaging learners for a sustainable future* (pp. 2802-2812.). Helsinki, Finland: University of Helsinki. ISBN 978-951-51-1541-6.
<https://arxiv.org/abs/1707.00177>
2. **Morales, R.**, **Cañadas, M. C.**, **Brizuela, B. M.**, & **Gómez, P.** (2016). Relaciones funcionales identificadas por estudiantes de primero de educación primaria y estrategias de resolución de problemas que involucran funciones lineales. In J. A. Macías, A. Jiménez, J. L. González, M. T. Sánchez, P. Hernández, C. Fernández, F. J. Ruiz, T. Fernández, & A. Berciano (Eds.), *Investigación en Educación Matemática XX* (pp. 365-375). Málaga, Spain: Sociedad Española de Investigación en Educación Matemática (SEIEM).
3. **Sawrey, K.**, **Brizuela, B. M.**, **Blanton, M.**, **Gardiner, A.**, **Kim, Y.**, & **Gibbins, A.** (2016).

- Fostering Young Students' Relational Understanding Of The Equal Sign. In *Proceedings of the 13th International Congress on Mathematics Education (ICME)*. University of Hamburg: Hamburg, Germany.
4. Caddle, M. C., **Brizuela, B. M.**, Newman-Owens, A., Glennie, C. R., Bautista, A., & Cao, Y. (2015). Seeking attention to student thinking: In support of teachers as interviewers. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. East Lansing, MI: Michigan State University.
 5. Newman-Owens, A., **Brizuela, B. M.**, Blanton, M., Sawrey, K., & Gardiner, A. M. (2015). "Natural Resources": Two Case Studies in Early Expressions of Generality. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. East Lansing, MI: Michigan State University.
 6. Caddle, M., & **Brizuela, B. M.** (2014). Using Interviews To Explore Teacher Knowledge Profiles In The Area Of Permutations. *Proceedings of the Joint 38th Annual Meeting of the International Group for the Psychology of Mathematics Education [PME] and the 36th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education [PME-NA]*. Vancouver, Canada: PME/PME-NA.
 7. Bautista, A., Wilkerson-Jerde, M. H., Tobin, R., & **Brizuela, B. M.** (2013). Diversity In Middle School Mathematics Teachers' Ideas About Mathematical Models: The Role Of Educational Background. In B. Ubuz, Ç. Haser, & M. A. Mariotti (Eds.), *Proceedings of the 8th Congress of the European Society for Research in Mathematics Education [CERME]* (pp. 960-969). Ankara, Turkey: Middle East Technical University.
 8. Portsmore, M., & **Brizuela, B. M.** (2011). First Grade Students' Planning and Artifact Construction While Working On An Engineering Design Problem. *Proceedings of the Annual Conference of the American Society of Engineering Education* (pp. 22.715.1 - 22.715.24). Vancouver, BC. (Honorable Mention for Best Paper in ASEE K-12 Division.)
 9. Hynes, M., Crismond, D., & **Brizuela, B. M.** (2010). Middle-School Teachers' Use and Development of Engineering Subject Matter Knowledge: Analysis of Three Cases. *Proceedings of the Annual Conference of the American Society for Engineering Education* (pp. 15.873.1 - 15.873.24).
 10. Martinez, M. V., & **Brizuela, B. M.** (2009). Modeling and proof in high school. In M. Tzekaki, M. Kaldrimidou, & H. Sakonidis (Eds.), *Proceedings of the 33rd Annual Meeting of the International Group for the Psychology of Mathematics Education* (vol 4, pp. 113-120). Thessaloniki, Greece: PME.
 11. **Brizuela, B. M.**, & Cayton, G. A. (2008). First and second graders' spontaneous use of punctuation marks within written numerals. In O. Figueras, J. L. Cortina, S. Alatorre, T. Rojano, & A. Sepúlveda (Eds.), *Proceedings of the 32nd Annual Meeting of the International Group for the Psychology of Mathematics Education* (vol. 1, p. 241). México: CINVESTAV-UMSNH.
 12. Cayton, G. A., & **Brizuela, B. M.** (2008). Relationships between children's external representations of number. In O. Figueras, J. L. Cortina, S. Alatorre, T. Rojano, & A. Sepúlveda (Eds.), *Proceedings of the 32nd Annual Meeting of the International Group for the Psychology of Mathematics Education* (vol. 2, pp. 265-272). México: CINVESTAV -UMSNH.
 13. Huang, W., **Brizuela, B. M.**, & Wong, P. (2008). Integrating Algebra and Engineering in the Middle School Classroom. *Proceedings of the Annual Conference of the American Society for Engineering Education* (pp. 13.759.1 - 13.759.18). Pittsburgh, PA.
 14. Cayton, G. A., & **Brizuela, B. M.** (2007). First graders' strategies for numerical notation, number reading and the number concept. In J.-H. Woo, H.-C. Lew, K.-S. Park, & D.-Y. Seo (Eds.), *Proceedings of the 31st Annual Meeting of the International Group for the Psychology of Mathematics Education* (vol.2, pp. 81-88). Seoul, Korea: Seoul National University.

15. Martinez, M. V., & **Brizuela, B. M.** (2006). An unexpected way of thinking about linear function tables. In J. Novotná, H. Moraová, M. Krátka, & N. Stehliková (Eds.), *Proceedings of the 30th Annual Meeting of the International Group for the Psychology of Mathematics Education* (vol. 4, pp. 153-160). Prague, Czech Republic: Charles University.
16. **Brizuela, B. M.**, & Schliemann, A. (2003). Fourth graders solving equations. In N. A. Pateman, B. J. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 joint meeting of PME and PMENA* (vol. 2, pp. 137-144). Honolulu: University of Hawai'i.
17. Schliemann, A. D., Carraher, D., **Brizuela, B. M.**, Earnest, D., Goodrow, A., Lara-Roth, S., & Peled, I. (2003). Algebra in elementary school. In N. A. Pateman, B. J. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 joint meeting of PME and PMENA* (vol. 4, pp. 127-134). Honolulu: University of Hawai'i.
18. Schliemann, A. D., Carraher, D. W., & **Brizuela, B. M.** (2002). From unknown amounts to representing variables. In *Proceedings of the XIV Annual Meeting Psychology of Mathematics Education, North American Chapter* (pp. 127-129). Athens, GA: ERIC Clearinghouse.
19. **Brizuela, B. M.**, & Lara-Roth, S. (2001). Additive relations and function tables. In H. Chick, K. Stacey, J. Vincent, & J. Vincent (Eds.), *The future of the teaching and learning of algebra. Proceedings of the 12th ICMI Study Conference* (vol. 1, pp. 110-119). The University of Melbourne, Australia.
20. Carraher, D., **Brizuela, B. M.**, & Earnest, D. (2001). The reification of additive differences in early algebra. In H. Chick, K. Stacey, J. Vincent, & J. Vincent (Eds.), *The future of the teaching and learning of algebra. Proceedings of the 12th ICMI Study Conference* (vol. 1). The University of Melbourne, Australia.
21. Carraher, D., Schliemann, A. D., & **Brizuela, B. M.** (2001). Can young students operate on unknowns? In M. van der H.-P. (Ed.), *Proceedings of the 25th conference of the International Group for the PME* (vol. 1, pp. 130-140). Utrecht, The Netherlands: Freudenthal Institute.
22. Schliemann, A. D., Carraher, D., & **Brizuela, B. M.** (2001). When tables become function tables. In M. van der H.-P. (Ed.), *Proceedings of the 25th conference of the International Group for the PME* (vol. 4, pp. 145-152). Utrecht, The Netherlands: Freudenthal Institute.
23. Carraher, D., **Brizuela, B. M.**, & Schliemann, A. D. (2000). Bringing out the algebraic character of arithmetic: Instantiating variables in addition and subtraction. In T. Nakahara & M. Koyama (Eds.), *Proceedings of the 24th conference of the International Group for the PME* (vol. 2, pp. 145-152). Hiroshima, Japan: Hiroshima University.

TEACHING MATERIALS:

1. Wong, P. Y., & **Brizuela, B. M.** (2007). *Building Math: Stranded*. Portland, ME: Walch Publishing. (Winner of "Distinguished Achievement Award" from the Association of Educational Publishers, 2008.)
2. Wong, P. Y., & **Brizuela, B. M.** (2007). *Building Math: Everest Trek*. Portland, ME: Walch Publishing. (Winner of "Distinguished Achievement Award" from the Association of Educational Publishers, 2008.)
3. Wong, P. Y., & **Brizuela, B. M.** (2007). *Building Math: Amazon Mission*. Portland, ME: Walch Publishing. (Winner of "Distinguished Achievement Award" from the Association of Educational Publishers, 2008.)

ARTICLES IN NON-REFEREED JOURNALS:

1. Carraher, D., Schliemann, A. D., & **Brizuela, B. M.** (2001). Algebra in the Early Grades. *Hands On!*, 24(1), 1-6.

BOOKNOTES:

1. **Brizuela, B. M.** (1999). The kindness of children. *Harvard Educational Review*, 69(2), 212-214.

2. **Brizuela, B. M.** (1998). Revolutionary multiculturalism: Pedagogies of dissent for the new millenium. *Harvard Educational Review*, 68(2), 259-261.
3. **Brizuela, B. M.** (1997). The essential Piaget: An interpretive reference and guide. *Harvard Educational Review*, 67(4), 835-836.

PLENARY AND KEYNOTE PRESENTATIONS

1. **Brizuela, B. M.** (2019, May). Invited Speaker at IV Brazilian Symposium on Psychology of Mathematical Education.
2. **Brizuela, B. M.** (2018, June). *Una perspectiva dinámica y contextual hacia el aprendizaje de las matemáticas en niños de escolaridad primaria*. Inaugural plenary presentation for Fulbright Professorship. Universidad del Valle, Cali, Colombia.
3. **Brizuela, B. M.** (2018, June). *Re-imagining children's early mathematical learning*. Keynote presentation, Tufts STEM Education Conference, Medford, MA, USA.
4. **Brizuela, B. M.**, Blanton, M., & Stephens, A. (2016, July). *Children's Understanding And Use Of Variable Notation*. Invited presentation at plenary panel "An Epistemological Perspective on Early Algebra: What Constitutes Algebraic Thinking in Elementary and Early Middle School?" at International Congress on Mathematics Education (ICME), Hamburg, Germany.
5. Blanton, M., **Brizuela, B. M.**, & Stephens, A. (2016, July). *Children's Understanding And Use Of Variable Notation*. Invited presentation at plenary panel as part of Topic Study Group 11, "Teaching and learning of algebra" at International Congress on Mathematics Education (ICME), Hamburg, Germany.
6. **Brizuela, B. M.** (2015, October). *El estudio de la apropiación de conocimientos matemáticos en contextos educativos de escolaridad primaria*. Plenary presentation at XLI Semana de la Matemática at the Instituto de Matemática de la Pontificia Universidad Católica de Valparaíso. Valparaíso, Chile.
7. **Brizuela, B. M.** (2014, April). *El estudio de la apropiación de conocimientos matemáticos en contextos educativos de escolaridad primaria*. Plenary session at Tercer Encuentro de Investigadores en Desarrollo Cognitivo y Educación, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Bariloche, Argentina.
8. **Brizuela, B. M.** (2009, October). *As notações no contexto da resolução de problemas matemáticos*. Plenary presentation as part of "Education Week" organized by the Victor Civita Foundation with the purpose of celebrating teachers' day in Brazil, São Paulo, Brazil.

INVITED TALKS AND PRESENTATIONS

(single underline indicates a graduate student; double underline indicates a post-doctoral associate)

1. **Brizuela, B. M.** (2018, June). *Experimentos de enseñanza y diseños de investigación*. Invited workshop at Universidad del Valle, Cali, Colombia.
2. **Brizuela, B. M.** (2017, March). *La representación de cantidades indeterminadas en niños de escolaridad primaria*. Invited seminar at Universidad de Granada, Granada, Spain.
3. **Brizuela, B. M.** (2016, May). *Explorando el razonamiento matemático de niños de 5 y 6 años de edad sobre números pares e impares en contextos de aula y entrevista*. Invited Seminar at Universidad Autónoma de Madrid, Madrid, Spain.
4. **Brizuela, B. M.** (2015, October). *El aprendizaje del álgebra en niños de 6 años de edad*. Invited course offered as part of XLI Semana de la Matemática at the Instituto de Matemática de la Pontificia Universidad Católica de Valparaíso. Valparaíso, Chile.
5. **Brizuela, B. M.** (2014, April). *Estudios de diseño en investigación educativa*. Invited seminar given to researchers at Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Bariloche, Argentina.
6. **Brizuela, B. M.**, & Salsa, A. M. (2014, April). Discussant for Symposium for New Researchers: *Interacción y conceptualización en el desarrollo, el aprendizaje y la enseñanza*. Tercer Encuentro

- de Investigadores en Desarrollo Cognitivo y Educación, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Bariloche, Argentina.
7. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, December). *La comprensión y el uso de variables en alumnos de los primeros cursos de educación primaria*. Invited presentation at Departamento de Didáctica de las Matemáticas, Universidad de Granada, Spain.
 8. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, June). *La comprensión y el uso de variables entre alumnos en los primeros grados de primaria*. Invited presentation at the meeting on Early Algebra organized by Secretaría de Educación Pública de México, Universidad Pedagógica Nacional, and CONACYT (Comisión Nacional de Ciencia y Técnica), México DF, México.
 9. **Brizuela, B. M.**, Blanton, M., Sawrey, K., & Newman-Owens, A. (2013, May). *Grades K-2 Children's Understanding of Variable in Functional Relationships*. Invited presentation at the Poincaré Institute for Mathematics Education, Tufts University, Medford, MA.
 10. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, March). *El gradual uso de letras en expresiones matemáticas entre alumnos de primer grado: un estudio de caso*. Invited presentation at the International Seminar: Procesos simbólicos en dominios específicos de aprendizaje, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Bariloche, Provincia de Río Negro, Argentina.
 11. **Brizuela, B. M.** (2011, December). *La construcción del símbolo para representar incógnitas y variables*. Invited presentation at the Segundo Encuentro de Investigadores en Desarrollo Cognitivo y Educación, National Library, Buenos Aires, Argentina.
 12. **Brizuela, B. M.** (2011, April). *La representaciones externas como expresiones y amplificadoras del pensamiento*. Conference for the Masters in Educational Psychology at FLACSO (Facultad Latinoamericana de Ciencias Sociales), Buenos Aires, Argentina.
 13. **Brizuela, B. M.** (2011, April). *El carácter algebraico de la aritmética: de las ideas de los niños a las actividades en el aula*. Book presentation at the Buenos Aires Book Fair.
 14. **Brizuela, B. M.** (2010, October). *The teaching and learning of Early Algebra among elementary school students*. Invited presentation at the Department of Mathematics Colloquium, University of Arizona at Tucson.
 15. **Brizuela, B. M.**, Schliemann, A. D., & Carraher, D. W. (2010, April). The early algebra, early mathematics project. *What do we know about Early Algebra: Reflecting on a Decade of Research*. Invited Symposium at the National Council of Teachers of Mathematics Research Pre-session, San Diego, California.
 16. **Brizuela, B. M.** (2009, September). *El uso de las notaciones en la solución de problemas matemáticos en niños de primaria*. Invited presentation at Universidad Autónoma de Madrid, Facultad de Psicología, Madrid, Spain.
 17. **Brizuela, B. M.** (2009, August). *La enseñanza y aprendizaje del álgebra temprana en niños de 7 a 9 años de edad*. Invited presentation at Universidad Pedagógica Nacional, Ajusco. México DF, México.
 18. **Brizuela, B. M.** (2009, May). *Enseñanza y aprendizaje de álgebra temprana*. Invited two-day Workshop for in-service teachers. Secretaría de Promoción Científica, Ministerio de Ciencia y Tecnología, Gobierno de la Provincia de Córdoba, Argentina.
 19. **Brizuela, B. M.**, & Alvarado, M. (2009, April). *La construcción del sistema de numeración escrito en niños pequeños*. Invited presentation at Universidad Nacional del Comahue, Centro Regional Universitario Bariloche.
 20. **Brizuela, B. M.** (2009, April). *El uso de notaciones como herramientas en la resolución de problemas*. Invited presentation at Universidad Nacional del Comahue, Centro Regional Universitario Bariloche, Bariloche, Patagonia, Argentina.
 21. **Brizuela, B. M.** (2009, January). *Representations in elementary mathematics education*. Invited presentation at New York University Steinhardt School of Education.

22. Alvarado, M., & **Brizuela, B. M.** (2008, September). *Las notaciones en el contexto de la resolución de problemas*. Invited presentation at the “Jornadas sobre la enseñanza en el primer ciclo: Tensiones, perspectivas y propuestas”. Red Nacional de Alfabetización, Buenos Aires, Argentina.
23. **Brizuela, B. M.**, & Cayton, G. A. (2008, September). *Representaciones numéricas en niños pequeños: el cambio de sistemas de representación*. Invited presentation at the Seminar “Nuevas Alfabetizaciones en la Educación del Siglo XXI”, Bariloche, Argentina.
24. **Brizuela, B. M.**, & Schliemann, A. D. (2008, September). *Alumnos de diez años de edad resolviendo ecuaciones lineales*. Invited presentation at the conference “Avances de investigaciones sobre aprendizajes numéricos”, Universidad Nacional de La Plata, Argentina.
25. **Brizuela, B. M.**, Martinez, M. V. & Cayton, G. A. (2008, June). *The Impact of Early Algebra on Later Algebra Learning: Results from a Longitudinal Intervention (2003-2008)*. Invited presentation at Pathways to Algebra conference, Mayenne, France.
26. **Brizuela, B. M.** (2007, September). *Young children’s numerical representations across different systems*. Invited presentation at the Seminar: Learning with and about external representations, Universidad de Barcelona, Spain.
27. Alvarado, M., & **Brizuela, B. M.** (2005, August). *A psychogenetic analysis of young children’s production of written numbers*. Paper presented as part of invited symposium: Early literacy, convened by Emilia Ferreiro and Gella Varnava-Skouras. XIIth European Conference on Developmental Psychology Submission, Tenerife, Islas Canarias, Spain.
28. Carraher, D., Schliemann, A. D., & **Brizuela, B. M.** (2000, October). *Early algebra, early arithmetic: Treating operations as functions*. Plenary address at the 22nd meeting of the PME North America meeting, Tucson, Arizona.
29. **Brizuela, B. M.** (1997, December). *El rol de las invenciones en la interpretación de notaciones matemáticas en los niños*. Paper presented at the Symposium in honor of Hermine Sinclair, Mexico City, Mexico.

CURRENT FUNDING

- National Science Foundation, Robert Noyce Teacher Scholarship Program—\$1,799,092—“The 1-12 Urban Mathematics and Science Teacher Collaborative”—Principal Investigator. Direct costs: \$1,666,278; Indirect Costs: \$132,814. Award period: 09/01/14-8/31/20.
- National Science Foundation, Robert Noyce Teacher Scholarship Program [NSF-DUE #1035342]—\$2,130,768—“Urban Mathematics and Science Teacher Collaborative”—Co-Principal Investigator. Direct Costs: \$2,130,768; No Indirect Costs Allowed. Award period: 9/1/10-8/31/19.

PAST FUNDING

- National Science Foundation, DRK-12 Program [NSF DRK-12 #1415509]—\$449,893 (Sub-contract with TERC for \$157,839)—“Learning Trajectories in Grades K-2 Children’s Understanding of Algebraic Relationships”—Co-Principal Investigator. Direct costs: \$106,722; Indirect Costs: \$51,117. Award period: 07/12/14-07/1/17.
- National Science Foundation, DRK-12 Program [NSF DRK-12 #1154355]—\$418,086 (Sub-contract with TERC for \$145,323)—“Children’s Understanding of Functions in Grades K-2”—Co-Principal Investigator. Direct costs: \$99,010; Indirect Costs: \$46,313. Award period: 9/1/11-7/31/14.
- National Science Foundation, Math/Science Partnership (MSP) Program [NSF-MSP #DUE-0962863]—\$9,550,799—“The Poincaré Institute for Mathematics Education”—Senior Researcher. Direct Costs: \$7,854,639; Indirect Costs: \$1,696,160. Award period: 6/1/10-5/31/18.

- Spencer Foundation Grant—\$40,000—“Young Children’s Numerical Representations Across Different Systems”—Principal Investigator. No Indirect Costs Allowed. Award period: 7/1/08-12/31/09.
- National Science Foundation, Research in and Evaluation on Education in Science and Engineering (REESE) Program [NSF-REESE #REC-0633915]—\$936,229—“The Impact of Early Algebra on Later Algebra Learning”—Principal Investigator. Direct Costs: \$621,701; Indirect Costs: \$314,528. Award Period: 7/1/07-8/31/11.
- Tufts University FRAC program, Faculty Grants-in-Aid—\$1,456—“Building Math: Integrating Algebra and Engineering in Middle School Classrooms”—Principal Investigator.
- Tufts University FRAC program, Faculty Grants-in-Aid—\$1,456 —“Young Children’s Numerical Representations”—Principal Investigator.
- Tufts University FRAC program, Faculty Grants-in-Aid—\$1,456 — “Mapping Our Worlds: Representations of Places and Spaces”—Principal Investigator.
- MA Board of Higher Education, Improving teacher quality state grant program—“Problem Solving and Critical Thinking with Discrete Mathematics K-12”— Co-Principal Investigator—\$186,707.
- National Science Foundation, Research on Learning and Education (ROLE) Program [NSF-ROLE #0310171] — “Algebra in Early Mathematics”—Senior Researcher—\$1,527,925 (Sub-Contract with TERC for \$703,417). Direct Costs: \$453,817; Indirect Costs: \$249,600. Award period: 7/1/03-6/30/07.
- Tufts University FRAC program, Faculty Grants-in-Aid—\$1,491.60 —“Children Representing Mathematics”—Principal Investigator.
- General Electric Math Excellence Fund—“Integrating Algebra and Engineering in the Classroom”— Co-Principal Investigator—\$360,870.
- MA Board of Higher Education, Improving teacher quality state grant program—“Leadership program in discrete mathematics”—Co-Principal Investigator—\$95,150.

CONFERENCE PRESENTATIONS

(single underline indicates a graduate student; double underline indicates a post-doctoral associate)

1. **Brizuela, B. M.**, Ventura, A. C., Blanton, M., Gardiner, A. M., Sawrey, K., & Newman-Owens, A. (2019, April). *A Learning Trajectory in Kindergarten and first grade students’ thinking about variable notation with indeterminate quantities and their relationships*. Paper to be presented at the annual meeting of the American Educational Research Association (AERA) as part of the symposium “Exploring Diversity and Synergy Across Research Programs Within Early Algebra.”
2. Pinto, E., **Brizuela, B. M.**, & Cañadas, M. C. (2019, February). *Representational variation among third and sixth grade students. A study within a functional approach to early algebra*. Paper to be presented at the Thematic Working Group 3—Algebraic Thinking (TWG3) at the Eleventh Congress of the European Society for Research in Mathematics Education (CERME11). Utrecht, The Netherlands: Freudenthal Institute of Utrecht University.
3. Allen, S., **Brizuela, B. M.**, & Blanton, M. (2018, April). *Use of Variable Notation to Represent Indeterminate Quantities Among Early and Late Elementary School Students*. Paper presented as part of the Roundtable Session “PreK and Elementary Students’ Mathematical Reasoning Processes” at the annual American Educational Research Association (AERA) meeting, New York, NY.
4. Cao, Y., & **Brizuela, B. M.** (2018, August). *High school student resources for understanding electric fields*. In Robertson, A. (Organizer) Parallel Session Identifying Conceptual Resources for Understanding Physics. Physics Education Research Conference (PERC) 2018, Washington DC.
5. Cao, Y. & **Brizuela, B. M.** (2018, January). *High school students’ representations and understandings of electric fields*. American Association of Physics Teachers (AAPT) Winter

- Meeting, San Diego CA.
6. Pinto, E., **Brizuela, B. M.**, & Cañadas, M. C. (2018, November). *Variación de representaciones de estudiantes de tercero a sexto de primaria al explorar relaciones entre cantidades que covarían*. Poster presented at the XXII Jornadas Nacionales de Educación Matemática, Universidad Alberto Hurtado (UAH), Sociedad Chilena de Educación Matemática (SOCHIEM), Santiago, Chile.
 7. Sawrey, K., **Brizuela, B. M.**, & Blanton, M. (2018, April). *Student noticing in function representations*. Paper presented at the Annual National Council of Teachers of Mathematics Research Pre-session, Washington, DC.
 8. Scheuer, N., Martí, E., de la Cruz, M., Cavalcante, S., **Brizuela, B. M.**, Cocoz, V., Lozada, M., & Salsa, A. (2018, May). *El desafío de captar el conocimiento numérico emergente: una serie de estudios con niños de tres años*. ERUMA: Tercer Encuentro Regional De La Unión Matemática Argentina, Bariloche, Argentina.
 9. Cavalcante, S., Rodríguez, C., Martí, M., Scheuer, N., **Brizuela, B. M.**, (2017, April). *Emergent numeracy in adult-child interactions: A case study on cardinal number value understanding*. Paper presented at the Society for Research in Child Development (SRCD), Austin, TX.
 10. Gibbins, A., **Brizuela, B. M.**, & Blanton, M. (2017, April). *First Graders Define and Justify Generalizations About Even and Odd Numbers*. Paper presented at the Annual National Council of Teachers of Mathematics (NCTM) Research Pre-session, San Antonio, TX.
 11. Ventura, A. C., & **Brizuela, B. M.** (2017, September). *Comprensión y notación de variables de niños de preescolar y primer grado: Progresión en el pensamiento algebraico sobre cantidades indeterminadas y sus relaciones*. XVI Reunión Nacional y V Encuentro Internacional de la Asociación Argentina de Ciencias del Comportamiento (AACC), San Luis, Argentina. Winner of the Young Researcher 2017 Award, Graduate Category (PREMIO Joven Investigador 2017 – Categoría Posgrado).
 12. Ventura, A. C., **Brizuela, B. M.**, & Blanton, M. (2017, April). *Kindergarten and Grade 1 students' use of variable notation to represent indeterminate quantities*. Paper to be presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX (not presented due to tornado in Texas).
 13. Blanton, M., **Brizuela, B. M.**, Gardiner, A., & Sawrey, K. (2016, April). *The Emergence of Young Children's Understanding of the Equal Sign*. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.
 14. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., Kim, Y., & Gibbins, A. (2016, April). *Kindergarten and first grade students' use of variable notation in an early algebra teaching experiment*. Paper presented at the Annual National Council of Teachers of Mathematics Research Pre-session, San Francisco, CA.
 15. Glennie, C. R., & **Brizuela, B. M.** (2016, July). *The Role Of Facilitator Feedback In Shaping Teacher Attention And Response To Student Thinking*. Invited speaker at the TSG 50 - In-service education, and professional development of secondary mathematics teachers at the International Congress on Mathematics Education (ICME), Hamburg, Germany.
 16. Morales, R., Cañadas, M. C., **Brizuela, B. M.**, & Gómez, P. (2016, September). Relaciones funcionales identificadas por estudiantes de primero de educación primaria y estrategias de resolución de problemas que involucran funciones lineales. Paper presented at the Sociedad Española de Investigación en Educación Matemática (SEIEM), Málaga, Spain.
 17. Sawrey, K., & **Brizuela, B. M.** (2016, January). *A Fourth Grade Student's Exploration of Linear Equation Representations in a Function Task*. Paper presented at the Joint Math Meeting of the Mathematical Association of America (MAA) and the American Mathematical Society (AMS). Seattle, WA.
 18. Sawrey, K., **Brizuela, B. M.**, Blanton, M., Gardiner, A., Kim, Y., & Gibbins, A. (2016, July). *Fostering Young Students' Relational Understanding Of The Equal Sign*. Oral presentation to

- be presented at the TSG 10 - Teaching and learning of early algebra at the International Congress on Mathematics Education (ICME), Hamburg, Germany.
19. Strachota, S. M., Blanton, M., Gardiner, A., & **Brizuela, B. M.** (2016, July). *Cycles Of Generalizing Activities In The Classroom*. Invited speaker at the TSG 10 - Teaching and learning of early algebra at the International Congress on Mathematics Education (ICME), Hamburg, Germany.
 20. Caddle, M. C., **Brizuela, B. M.**, Newman-Owens, A., Glennie, C. R., Bautista, A., & Cao, Y. (2015, November). *Seeking attention to student thinking: In support of teachers as interviewers*. Paper presented at the the 37th Conference of the North American Chapter of the Psychology of Mathematics Education, East Lansing, Michigan.
 21. **Brizuela, B. M.**, Sawrey, K., Blanton, M., & Gardiner, A. (2015, September). *First Grade Students' Uses of Tables as they Explore Functional Relations*. Paper presented as part of the symposium "Semiotic and cultural components of early mathematical knowledge" at the 17th European Conference on Developmental Psychology, Braga, Portugal.
 22. **Brizuela, B. M.** (2015, September). Co-chair for the symposium *Semiotic and cultural components of early mathematical knowledge* at the 17th European Conference on Developmental Psychology, Braga, Portugal.
 23. **Brizuela, B. M.** (2015, September). Discussant for the symposium *Semiotic and cultural components of early mathematical knowledge* at the 17th European Conference on Developmental Psychology, Braga, Portugal.
 24. **Brizuela, B. M.**, Blanton, M., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2015, April). *First grade students' uses of tables as they explore functional relations*. Paper presented at the Annual National Council of Teachers of Mathematics Research Preession, Boston, MA.
 25. **Brizuela, B. M.**, Blanton, M., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2015, April). *First grade students' uses of tables as they explore functional relations*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
 26. Cao, Y., Wilkerson-Jerde, M., **Brizuela, B. M.**, Tobin, R., & Bautista, A. (2015, April). *Collaborative Modeling In Elementary Mathematics*. Paper presented at the Annual National Council of Teachers of Mathematics Research Preession, Boston, MA.
 27. Glennie, C., Newman-Owens, A., **Brizuela, B. M.**, Caddle, M., & Bautista, A. (2015, April). *Teachers' Attention to Student Reasoning*. Paper presented at the symposium Functions, Teacher Development, and Student Learning. Research Preession, National Council of Teachers of Mathematics, Boston, MA.
 28. Newman-Owens, A., **Brizuela, B. M.**, Blanton, M., Sawrey, K., & Gardiner, A. (2015, November). "*Natural Resources:*" *Two Case Studies In Early Expressions Of Generality*. Paper to be presented at the Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education, East Lansing, MI.
 29. Sawrey, K., **Brizuela, B. M.**, Blanton, M., & Gardiner, A. (2015, April). *Case Studies of Computation and Algebraic Reasoning in K-2 Students*. Paper presented at the Annual National Council of Teachers of Mathematics Research Preession, Boston, MA.
 30. Sawrey, K., **Brizuela, B. M.**, Blanton, M., & Gardiner, A. (2015, April). *Case Studies of Computation and Algebraic Reasoning in K-2 Students*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
 31. Caddle, M., & **Brizuela, B. M.** (2014, July). *Using Interviews To Explore Teacher Knowledge Profiles In The Area Of Permutations*. Paper presented at the Joint 38th Annual Meeting of the International Group for the Psychology of Mathematics Education [PME] and the 36th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education [PME-NA]. Vancouver, Canada.
 32. Cao, Y., & **Brizuela, B. M.** (2014, July). *High School Students' Understandings And Representations Of The Electric Field*. Poster presented at the Physics Education Research Conference, Minneapolis, MN.

33. **Brizuela, B. M.**, Blanton, M., Gardiner, A., Newman-Owens, A., & Sawrey, K. (2014, May). *A First Grade Student's Exploration of Variable and Variable Notation*. Paper presented at the Annual Conference of the Jean Piaget Society as part of the Symposium “Developing understandings of mathematical functions: perspectives on learning across the grades,” San Francisco, CA.
34. Hagen, C., & **Brizuela, B. M.** (2014, May). *Developing understandings of mathematical functions: perspectives on learning across the grades*. Symposium held at the Annual Conference of the Jean Piaget Society, San Francisco, CA.
35. McCormick, M., Hammer, D., & **Brizuela, B. M.** (2014, May). *Engineering design as imagining “what could be.”* Paper presented at the Annual Conference of the Jean Piaget Society, San Francisco, CA.
36. Bautista, A., **Brizuela, B. M.**, Caddle, M., & Glennie, C. (2014, April). *Teacher Learning across Group and Individual Assignments: Attending and Responding to Student Mathematical Thinking*. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
37. Blanton, M., **Brizuela, B. M.**, Gardiner, A., Sawrey, K., & Newman-Owens, A. (2014, April). *A Learning Trajectory for Children's Understanding of Variable*. Paper presented at the Annual National Council of Teachers of Mathematics Research Presession, New Orleans, Louisiana.
38. Blanton, M., **Brizuela, B. M.**, Gardiner, A., Sawrey, K., & Newman-Owens, A. (2014, April). *A Learning Trajectory in Young Children's Understanding of Generalizing Functional Relationships*. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
39. Sawrey, K. B., **Brizuela, B. M.**, Blanton, M., Gardiner, A., Newman-Owens, A. (2013, October). *How Algebra Experiences Enhance Common Core Mathematical Practices in Young Students*. Presentation at the Association of Teachers of Mathematics of New England Conference, Killington, Vermont.
40. **Brizuela, B. M.**, Blanton, M., & Schliemann, A. D. (2013, July). *Functions from Kindergarten to Grade 5*. Paper presented as part of the Discussion Group *Functions from Grades K–12* at the 37th Annual Conference of the International Group for the Psychology of Mathematics Education, Kiel, Germany.
41. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., Newman-Owens, A., Gravel, B. (2013, June). *Children's use of variable notation in early mathematics education*. Paper presented at the 2013 Jean Piaget Society Conference, Chicago, Illinois.
42. Blanton, M., **Brizuela, B. M.**, Gardiner, A., Sawrey, K., & Newman-Owens, A. (2013, April). *Analyzing Learning Trajectories in Grades K-2 Children's Understanding of Functions*. Discussion Group at the Annual National Council of Teachers of Mathematics Research Presession, Denver, Colorado.
43. Blanton, M., Gardiner, A., **Brizuela, B. M.**, Sawrey, K., & Newman-Owens, A. (2013, April). *Developing Children's Algebraic Thinking through Problem-Based Function Tasks*. Gallery workshop presented at the Annual National Council of Teachers of Mathematics Meeting, Denver, Colorado.
44. **Brizuela, B. M.**, Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, April). *Bringing variable notation to the forefront of early mathematics education*. Poster presented at the Annual National Council of Teachers of Mathematics Research Presession, Denver, Colorado.
45. Caddle, M., Bautista, A., **Brizuela, B. M.**, Hagen, C., & Sharpe, S. (2013, April). *Looking at teacher understanding across data sources*. Discussion session at the Annual National Council of Teachers of Mathematics Research Presession, Denver, Colorado.
46. Gardiner, A., **Brizuela, B. M.**, Blanton, M., Sawrey, K., & Newman-Owens, A. (2013, April). *How Classroom Discussion Promotes Functional Thinking in Grades K–2*. Research session

- presented at the Annual National Council of Teachers of Mathematics Meeting, Denver, Colorado.
47. Wilkerson-Jerde, M. H., Bautista, A., **Brizuela, B. M.**, & Tobin, R. (2013, April). "*Because that word model is loaded*": *What Counts As Models And Modeling For Middle School Mathematics Teachers*. Poster presented at the Annual National Council of Teachers of Mathematics Research Preession, Denver, Colorado.
 48. Bautista, A., Wilkerson-Jerde, M. H., Tobin, R., & **Brizuela, B. M.** (2013, February). *Diversity In Middle School Mathematics Teachers' Ideas About Mathematical Models: The Role Of Educational Background*. Paper presented at the 8th Congress on of European Research in Mathematics Education, Antalya, Turkey.
 49. Blanton, M., Gardiner, A., Marum, T., Knuth, E., Stephens, A., Isler, I., **Brizuela, B. M.**, Sawrey, K., & Gravel, B. (2012, April). *Building the Common Core Mathematical Practices through Early Algebra*. Presented at the NCTM Annual Meeting, Philadelphia, PA.
 50. **Brizuela, B. M.**, Burnett-Bradshaw, C., Schliemann, A. D., Caddle, M., & Carraher, D. (2012, April). *The Early Algebra, Early Mathematics Project*. Paper presented as part of the Symposium "Measuring Early Algebra Impact: Quantitative Studies of Children's Algebra Learning." National Council of Teachers of Mathematics Research Preession, Philadelphia, Pennsylvania.
 51. Bautista, A., **Brizuela, B. M.**, & Ko, Y.-Y. (2011, June). *Middle school mathematics teachers' conceptions about multiple representations for functions*. Paper presented at the 5th Annual International Conference on Psychology, Athens, Greece.
 52. **Brizuela, B. M.**, & Alvarado, M. (2011, June). *Mathematical representations as tools among early elementary school children*. Paper presented at a symposium at the annual meeting of the Jean Piaget Society, Berkeley, California.
 53. Portsmore, M., & **Brizuela, B. M.** (2011, June). *First Grade Students' Planning and Artifact Construction While Working On An Engineering Design Problem*. Annual Conference of the American Society of Engineering Education, Vancouver, BC.
 54. Alvarado, M., & **Brizuela, B. M.** (2010, September). *First graders' work on additive problems with the use of different notational tools: Labeled tables, unlabeled tables, and written language*. Paper presented at a symposium at the European Association for Research on Learning and Instruction (EARLI), SIG-Writing, Heidelberg, Germany.
 55. Hynes, M., **Brizuela, B. M.**, & Crismond, D. (2010, June). *Middle school teachers' use and development of engineering subject matter knowledge: Analysis of three cases*. Paper presented American Society for Engineering Education, Louisville, KY.
 56. Martinez, M. V., & **Brizuela, B. M.** (2009, July). *Modeling and proof in high school*. Research report presented at the annual meeting of the International Group for the Psychology of Mathematics Education, Thessaloniki, Greece.
 57. Gravel, B. E., & **Brizuela, B. M.** (2009, April). *Children's multiple representations of their ideas about air*. Paper presented at the American Education Research Association Annual Meeting, San Diego, CA.
 58. **Brizuela, B. M.**, & Cayton, G. A. (2008, October). *Interpretación y producción de números en niños de 5 a 7 años de edad a través de diferentes sistemas de representación: análisis factoriales*. Paper presented at the 4th International Conference on Writing, Speech, and Context, Querétaro, México.
 59. **Brizuela, B. M.**, & Cayton, G. A. (2008, July). *First and second graders' spontaneous use of punctuation marks within written numerals*. Short oral presentation at the annual meeting of the International Group for the Psychology of Mathematics Education, Morelia, México.
 60. Cayton, G. A., & **Brizuela, B. M.** (2008, July). *Relationships between children's external representations of number*. Research report presented at the annual meeting of the International Group for the Psychology of Mathematics Education, Morelia, México.
 61. Huang, W., **Brizuela, B. M.**, & Wong, P. (2008, June). *Integrating Algebra and Engineering*

- in the Middle School Classroom*. American Society for Engineering Education, Pittsburgh, PA.
62. Cayton, G. A., & **Brizuela, B. M.** (2007, July). *First graders' strategies for numerical notation, number reading and the number concept*. Paper presented at the annual meeting of the International Group for the Psychology of Mathematics Education, Seoul, Korea: Seoul National University.
 63. Martinez, M. V., & **Brizuela, B. M.** (2006, July). *An unexpected way of thinking about linear function tables*. Paper presented at the annual meeting of the International Group of Psychology of Mathematics Education, Prague, Czech Republic.
 64. **Brizuela, B. M.**, & Martinez, M. V. (2006, April). *Fourth graders' understanding of the comparison between two linear functions*. American Educational Research Association Annual Meeting. San Francisco, California.
 65. **Brizuela, B. M.**, & Cayton, G. (2005, August). *Young children's external representation of space through spontaneously generated maps*. Poster presented as part of the Poster Workshop "Children's interaction with external representations" convened by Eduardo Martí and Annick Weil-Barais. XIIth European Conference on Developmental Psychology Submission, Tenerife, Islas Canarias, Spain.
 66. **Brizuela, B. M.**, & Schliemann, A. D. (2003, July). *Fourth graders solving equations*. Paper presented at the annual meeting of the International Group of Psychology for Mathematics Education (PME), Hawaii.
 67. Schliemann, A. D., Carraher, D., **Brizuela, B. M.**, Earnest, D., Goodrow, A., Lara-Roth, S., & Peled, I. (2003, July). *Algebra in elementary school*. Paper presented at the annual meeting of the International Group of Psychology for Mathematics Education (PME), Hawaii.
 68. **Brizuela, B. M.**, & Earnest, D. (2003, April). *Multiple notational systems and algebraic understandings*. Paper presented at the symposium "Early algebra: Asking the right questions", at the annual meeting of the American Educational Research Association (AERA), Chicago, IL.
 69. Schliemann, A. D., Carraher, D. W., & **Brizuela, B. M.** (2002, October). *From unknown amounts to representing variables*. Paper presented at the annual meeting of the North American Chapter of Psychology of Mathematics Education (PME-NA), Athens, Georgia.
 70. **Brizuela, B. M.**, & Lara-Roth, S. (2001, December). *Additive relations and function tables*. Paper presented at the 12th ICMI meeting entitled "The Future of the Teaching and Learning of Algebra", The University of Melbourne, Australia.
 71. Carraher, D., **Brizuela, B. M.**, & Earnest, D. (2001, December). *The reification of additive differences in early algebra*. Paper presented at the 12th ICMI meeting entitled "The Future of the Teaching and Learning of Algebra", The University of Melbourne, Australia.
 72. Carraher, D., Schliemann, A. D., & **Brizuela, B. M.** (2001, July). *Can young students operate on unknowns?* Paper prepared for a research forum at the annual PME conference, Utrecht, The Netherlands.
 73. Schliemann, A. D., Carraher, D., & **Brizuela, B. M.** (2001, July). *When tables become function tables*. Paper presented at the annual PME conference, Utrecht, The Netherlands.
 74. Carraher, D., **Brizuela, B. M.**, & Earnest, D. (2001, April). *The reification of differences*. Paper presented at the annual NCTM meeting, Orlando, Florida.
 75. **Brizuela, B. M.**, Schliemann, A. D., Carraher, D. (2000, July). *Notations as representations of algebraic thinking and as a tool for algebraic learning*. Paper presented at the ICME conference, Tokyo, Japan.
 76. Carraher, D., **Brizuela, B. M.**, Schliemann, A. D. (2000, July). *Bringing out the algebraic character of arithmetic: Instantiating variables in addition and subtraction*. Paper presented at the ICME conference, Tokyo, Japan.

77. Carraher, D., **Brizuela, B. M.**, Schliemann, A. D. (2000, July). *Bringing out the algebraic character of arithmetic: Instantiating variables in addition and subtraction*. Paper presented at the PME conference, Hiroshima, Japan.
78. **Brizuela, B. M.**, Carraher, D., & Schliemann, A. D. (2000, April). *Mathematical notation to support and further reasoning (“to help me think of something”)*. Paper presented as part of the research symposium “Research on Algebra in the Elementary Years” at the National Council of Teachers of Mathematics (NCTM) Research Pre-session, Chicago, IL.
79. Schliemann, A. D., Carraher, D., & **Brizuela, B. M.** (2000, April). *From quantities to ratio, functions, and algebraic relations*. Paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans.
80. Carraher, D. W., Schliemann, A. D., & **Brizuela, B. M.** (1999, April). *Bringing out the algebraic character of arithmetic*. Paper presented at a symposium at the annual meeting of the American Educational Research Association (AERA), Montreal, Canada.
81. del Prado Hill, P., & **Brizuela, B. M.** (1999, April). *Students’ Constructions of Social Class*. Paper presented at a symposium at the annual meeting of the American Educational Research Association (AERA), Montreal, Canada.
82. **Brizuela, B. M.** (1999, June). *Children’s construction of the written number system*. Paper presented at a symposium at the annual meeting of the Jean Piaget Society, Mexico City.
83. **Brizuela, B. M.** (1998, July). *Children’s construction of the written number system*. Poster presented at the biennial meeting of the International Society for the Study of Behavioral Development (ISSBD), Bern, Switzerland.
84. Schliemann, A.D., Calderone, T., Pendexter, W., & **Brizuela, B. M.** (1998, July). *Algebraic notation and problem solving: Help or hindrance*. Paper presented at the biennial meeting of the International Society for the Study of Behavioral Development (ISSBD), Bern, Switzerland.
85. del Prado Hill, P., & **Brizuela, B. M.** (1998, February). *Students’ constructions of social class*. Roundtable presentation at the Third Annual Student Research Conference, Harvard Graduate School of Education, Cambridge, MA.
86. **Brizuela, B. M.** (1997, April). *Facilitating school adaptation: An intervention study with Hispanic immigrant children*. Poster presented at the biennial meeting of the Society for Research in Child Development (SRCD), Washington, DC.
87. **Brizuela, B. M.** (1997, March). *Teaching-learning-research: Extended clinical interviewing as a context for exploring*. Paper presented in a symposium at the Second Annual Student Research Conference, Harvard Graduate School of Education, Cambridge, MA.
88. **Brizuela, B. M.** (1996, August). *Inventions and conventions in children’s understanding of place value*. Poster presented at the biennial meeting of the International Society for the Study of Behavioral Development (ISSBD), Québec City, Canada.

MASTERS THESES SUPERVISED (AS COMMITTEE CHAIR)

Tufts University—completed theses:

1. Elsa Head. 2011. Current position: Noyce Fellow & Middle School Mathematics Teacher, Cambridge Public Schools, MA.
2. Daniel Cogan-Drew. 2005. Current position: Co-Founder & Chief Product Officer, Newsela.
3. Erin Cejka. 2005.
4. Dan Barber. 2003. Elementary School Teacher, Charlotte Mecklenburg Schools and Irwin Academic Center, Charlotte, NC.

DOCTORAL DISSERTATIONS SUPERVISED (AS COMMITTEE CHAIR)

Tufts University—completed dissertations:

1. Katie Sawrey. 2018. Current position: Post-doctoral Fellow, Worcester Polytechnic Institute.

2. Amber Kendall. 2017. Current position: Coordinator of STEM Partnership Development, North Carolina State University.
3. Ying Cao. 2015. Current position: Assistant Professor, Drury University.
4. Mary C. Caddle. 2012. Current position: Project Director, Poincaré Institute for Mathematics Education, Tufts University.
5. Camille Burnett. 2011. Current position: Instructor, Prairie View A&M University; Adjunct Instructor, San Jacinto College.
6. Christopher G. Wright. 2011. Current position: Assistant Professor, School of Education, Drexel University. CAREER Award Recipient, 2016.
7. Brian E. Gravel. 2011. Current position: Assistant Professor/Director of STEM Elementary Education, Tufts University.
8. Jason Kahn. 2010. Current position: Research Associate, Department of Psychiatry, Boston Children's Hospital, Boston, Massachusetts.
9. Araceli Martinez Ortiz. 2010. Current position: Research Associate Professor of Engineering Education in the College of Education at Texas State University.
10. Merredith D. Porstmore. 2009. Current position: Director, Center for Engineering Education and Outreach, Tufts University.
11. Morgan Hynes. 2009. Current position: Assistant Professor, School of Engineering Education, Purdue University.
12. Gabrielle A. Cayton. 2008. Current position: Associate Research Scientist at Educational Testing Service, Princeton, NJ.
13. Mara V. Martinez. 2008. Current position: Associate Professor, Mathematics, Statistics, and Computer Science Department; Affiliate Faculty, Learning Sciences Research Institute, University of Illinois at Chicago.

POST-DOCTORAL ASSOCIATES/FELLOWS SUPERVISED

1. Mary Caddle—Post-Doctoral Associate—Poincaré Institute for Mathematics Education project. 2012-ongoing.
2. Alfredo Bautista Arellano—Post-Doctoral Associate—Poincaré Institute for Mathematics Education project. 2011-2013. Current position: Faculty Research Scientist, National Institute of Education, Centre for Research in Pedagogy and Practice, Nanyang Technological University, Singapore.

RESEARCH STAYS/SABBATICALS SUPERVISED

1. Rafael Ramírez. Assistant Professor of Mathematics Education, Departamento de Didáctica de las Matemáticas, Universidad de Granada. June 2018-December 2018.
2. Eder Pinto. PhD student in Mathematics Education, Departamento de Didáctica de las Matemáticas, Universidad de Granada. March 2018-May 2018.
3. Ana Clara Ventura. Post-doctoral fellow from Universidad Nacional de Comahue, Argentina-CONICET. May-August 2016.
4. Yenny Otalora Sevilla. PhD student at University of Massachusetts, Dartmouth. February-May 2016.
5. Ana María Medrano. PhD student at Universidad Nacional Autónoma de México. July-November 2015.
6. María Consuelo Cañadas. Assistant Professor of Mathematics Education, Departamento de Didáctica de las Matemáticas, Universidad de Granada. February 2012-May 2012.
7. Alfredo Bautista. PhD student at Universidad Autónoma de Madrid, School of Psychology. October 2008-February 2009.

SERVICE

University-based (Tufts University):

- Chair, Provost Search. 2018.
- Steering Committee, Center for Engineering Education and Outreach. May 2015-ongoing.
- Tufts University T10 Strategic Plan, Member of Teaching & Learning Committee. 2012-2013.
- Institutional Review Board, Social, Behavioral, and Education Research committee member. September 2007-July 2014.
- Member of the Science, Technology, Engineering, and Mathematics (STEM) Education program. September 2001-ongoing.

EDITORIAL BOARDS

- Editor-in-Chief, *Journal for the Study of Education and Development/Revista Infancia y Aprendizaje* (Taylor & Francis group), 2017-ongoing
- Consulting Board, *Diseminaciones. Revista de Investigación y Crítica en Humanidades y Ciencias Sociales*, Universidad Autónoma de Querétaro, México, 2017-ongoing
- Editorial Board, *PNA* (<http://www.pna.es/>), 2016-ongoing
- International Editorial Board, *California Edit* (<http://california-edit.com>), 2013-ongoing
- Editorial Board, *Revista IRICE*, Instituto Rosario de Investigaciones en Ciencias de la Educación (CONICET, equivalent of NSF in Argentina), Rosario, Santa Fé, Argentina, 2010-ongoing
- Associate Editor, *Revista Infancia y Aprendizaje/Journal for the Study of Education and Development* (Taylor and Francis group), 2011-2016
- Manuscript Editor, *Harvard Educational Review*, 1998-1999
- Editorial Board, *Harvard Educational Review*, 1997-1999

TENURE AND PROMOTION CASES

- January 2015: promotion to full case for Queens College, CUNY
- December 2014: tenure case for American University in Beirut, Lebanon

REVIEWER

JOURNALS

Child Development, Cognition and Instruction, Developmental Psychology, Early Childhood Research Quarterly, Educational Researcher, Estudios de Psicología, European Journal of Psychology of Education, Infancia y Aprendizaje, Journal of Mathematical Behavior, Journal for Research in Mathematics Education, Mathematical Thinking and Learning, Revista IRICE, Teaching Children Mathematics.

BOOKS

- Reviewer for book *Representational systems and practices as learning tools in different fields of knowledge*, Sense Publishers. Editors: Christopher Andersen, Nora Scheuer, María Puy Pérez Echeverría, and Eva Teubal. Published 2009.
- Reviewer for book *Developing Essential Understanding of Algebraic Thinking for Teaching Mathematics in Grades 3-5* published by National Council of Teachers of Mathematics. Published 2011.

PUBLISHER

- Teachers College Press

NATIONAL SCIENCE FOUNDATION

- REESE Panel, April 2007
- DRK-12 Panel, March 2008

CONICET (Argentina)

- Outside evaluator for the assessment of researchers wishing to enter into the “Researcher Career” (Concurso de Ingreso a la Carrera del Investigador) in CONICET (equivalent of NSF), Argentina. 2009

NETHERLANDS ORGANIZATION FOR SCIENTIFIC RESEARCH (NOW) PROGRAMME COUNCIL FOR EDUCATIONAL RESEARCH (PROO)

- Peer reviewer for research proposal, October 2012

SCHOOL QUALITY REVIEW FOR BOSTON PUBLIC SCHOOLS, Edison School, Brighton, MA, December 2014

- Chairperson

ADVISORY BOARDS

2015-2021: Tufts Center for Engineering Education and Outreach (CEEEO) Steering Committee Member.

2014-ongoing: NSF funded “INK-12 (Interactive Ink Inscriptions in K-12).” PIs: Kimberle Koile (MIT) and Andee Rubin (TERC).

2014-ongoing: IES funded “The Impact of a Teacher-Led Early Algebra Intervention on Children's Algebra-Readiness for Middle School.” PIs: Maria Blanton, TERC; Lindsay Demers, TERC; Eric Knuth, Ana Stephens, and Jee Seon Kim, University of Wisconsin at Madison; and Despina Stylianou, CCNY-CUNY.

2012-ongoing: NSF funded “The Impact of Early Algebra on Students’ Algebra-Readiness”. PIs: Maria Blanton, TERC; and Eric Knuth, University of Wisconsin at Madison.

2009-2014: NSF funded “Math Core for Museums”. Collaboration among: Science Museum of Minnesota, North Carolina Museum of Life and Science, San Diego State University, Museum of Science, Explora Museum in Albuquerque New Mexico, and TERC. PIs: J. Shipley Newlin, Director of Physical Sciences, Science Museum of Minnesota; and Ricardo Nemirovsky, San Diego State University.

2009-2012: NSF funded “Creation and Dissemination of Upper-Elementary Mathematics Assessment Modules”. PI: Heather Hill, Harvard Graduate School of Education.

PROFESSIONAL MEMBERSHIPS

International Group for the Psychology of Mathematics Education (PME)

National Council of Teachers of Mathematics (NCTM)

American Educational Research Association (AERA)

Jean Piaget Society (JPS)

IN THE NEWS/MEDIA

2012:

The Algebra Problem. How to elicit algebraic thinking in students before eighth grade (<http://ase.tufts.edu/education/faculty/docs/pappanoTheAlgebraProblem.pdf>). *Harvard Education Letter*, 28(3), May-June 2012, by Laura Pappano.

On page 2 of this article that appeared in The Boston Globe Magazine (<http://articles.boston.com/2012-01-22/magazine/306462851math-centers-math-circle-russian-school/2>), I am referenced as saying about after school math programs that “there is little solid evidence to show that these programs do anything at all” and that I am “skeptical about the efficacy of after-school math centers.” In the interview that led to this reference, I had many more things to say, which did not make it to print! The bottom line is that I wish that all the money poured into creating and sustaining these programs were dedicated to curriculum development, professional development, and parental involvement in their children’s mathematics education.

2010:

Interview by Magazine Desde La Patagonia, published by Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, reporting on my Fulbright Fellowship at their institution. Available at: <http://ase.tufts.edu/education/faculty/docs/brizuelaDesdeLaPatagonia.pdf>

2009:

Aprender Matemática Puede Ser Divertido (Learning Mathematics Can be Fun). *Revista Acción*, 4(28), 8-9. 2009. Available at <http://ase.tufts.edu/education/faculty/brizuela.asp>
Article in the outreach magazine of the Ministry of Science and Technology, Province of Córdoba, Argentina, reporting on a two-day workshop I held for in-service teachers in May 2009.

Interview on the television program 12(ntes) [Teachers], which appears weekly on public television in Argentina. Volume 4, 2009. Available at <http://ase.tufts.edu/education/faculty/brizuela.asp>

Reflexões no papel: Álgebra desde cedo (Reflections on paper: Algebra from the start). *Revista Nova Escola* online. Edição 227, November 2009. Available at:

<http://revistaescola.abril.com.br/formacao/formacao-continuada/reflexoes-papel-algebra-notacoes-tabelas-equacoes-graficos-barbara-brizuela-investigacoes-511730.shtml>

Report by Beatriz Santomauro on an invited presentation I gave as part of "Education Week" organized by the Victor Civita Foundation with the purpose of celebrating teachers' day in Brazil. São Paulo, Brazil.

Let $x=x$. *Tufts Journal*, April 2009. Available at <http://tuftsjournal.tufts.edu/2009/041/features/03/>

Article by Marjorie Howard on the Early Algebra project and our summer camp.

2003

The wedding of two programs will help kids learn mathematics. *Tufts Journal*, March 2003.

Available at <http://tuftsjournal.tufts.edu/archive/2003/march/features/math.shtml>

Article by Marjorie Howard on the Building Math project.

2001

Algebra in elementary school? No sweat. *Tufts Journal*, November 2001. Available at

<http://tuftsjournal.tufts.edu/archive/2001/november/features/index.shtml>

Article by Marjorie Howard on the Early Algebra Project.

LANGUAGES

Bilingual in Spanish and English

Fluent in oral and written French

COUNTRIES LIVED IN

Argentina, Ecuador, México, United States, Venezuela