

# CURRICULUM VITAE

Updated July 2024

## IGOR BASCANDZIEV

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### FACULTY POSITIONS

2024 –	Lecturer on Education, Harvard Graduate School of Education
2017 – 2019	Visiting Assistant Professor of Psychology, Reed College
2013 – 2014	Visiting Assistant Professor of Psychology, Clark University
2011 – 2013	Visiting Assistant Professor of Psychology, Lycoming College

### RESEARCH POSITIONS

2020 –	Postdoctoral Fellow, Computational Cognitive Development Lab, Harvard Graduate School of Education (PI: Elizabeth Bonawitz)
2019 – 2020	Postdoctoral Fellow, Computational Cognitive Development Lab, Rutgers University, Newark (PIs: Elizabeth Bonawitz and Patrick Shafto)
2016 – 2017	Mind Brain and Behavior Research Associate, Harvard University
2014 – 2016	Postdoctoral Fellow, Department of Psychology, Harvard University (PIs: Susan Carey and Deborah Zaitchik)

### EDUCATION

2011	Ed.D. Harvard Graduate School of Education  Thesis: From Perseverative Errors to Correct Searching: What Causes the Gravity Error and How it Can be Overcome Advisor: Paul L. Harris
2005	Ed.M. Harvard Graduate School of Education
1998	B.S. in Psychology, University “Sts. Kiril and Metodij” Skopje, Macedonia

### GRANTS (EXTRAMURAL)

2023 – 2028	National Science Foundation. “Cognitive Mechanisms of Guided Instruction in the Early Elementary Years” NSF 21-588 EHR Core Research Award # 2301180 Role: co-PI (w/ Elizabeth Bonawitz, Caren Walker, and Patrick Shafto) <b>Total Award: \$1,500,000</b>
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2021 – 2022      Caplan Foundation for Early Childhood. “The Mind Lab: Thought Experiments as a Means to Teaching Science Effectively and Efficiently”  
 Role: PI (w/ Elizabeth Bonawitz, Caren Walker)  
**Total Award: \$61,666**

### GRANTS (INTRAMURAL)

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2017 – 2018      Stillman Drake Fund for Faculty Development, Reed College. “The effect of thought experiments on reasoning about forces and motion.”  
 Role: PI  
**Total Award: \$1,008**

2018 – 2019      Stillman Drake Fund for Faculty Development, Reed College. “The effect of thought experiments on reasoning about forces and motion.”  
 Role: PI  
**Total Award: \$1,016**

2016 – 2017      Mind, Brain, Behavior Interfaculty Initiative, Harvard University. “The role of thought experiments in scientific reasoning”  
 Role: PI (Faculty Sponsors: Susan Carey and Susanna Siegel)  
**Total Award: \$50,000**

### TEACHING AWARDS

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2017      George W. Goethals Award recognizing excellence in teaching in the psychology sophomore tutorial program

2015      George W. Goethals Award recognizing excellence in teaching in the psychology sophomore tutorial program

### FELLOWSHIPS AND SCHOLARSHIPS

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Ministry of Education, Macedonia -- Scholarship for Talented Students, 1993  
 Larsen Fellowship, Harvard Graduate School of Education, 2005  
 Dean's Summer Fellowship, Harvard Graduate School of Education, 2008  
 Edmund J. Curley Fund Scholarship Harvard University, 2009, 2010

### EDITORIAL ROLES

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- **Frontiers in Developmental Psychology - Cognitive Development**
  - o Guest Associate Editor
  - o Topic Editor (Advances in Metacognition and Reflection)
- **Frontiers in Psychology: Developmental Psychology**
  - o Member of the Editorial Board (Roles: Review Editor)

### GRANT REVIEWING

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- NSF Panel Review Member (2015; 2015; 2019; 2024)
- NSF Ad Hoc Reviews

## MANUSCRIPTS IN PREPARATION

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- **Bascandzief, I.**, Walker, C., & Bonawitz, E. (in prep). The Mind Lab: Thought Experiments as a Means to Teaching Science Effectively and Efficiently
- **Bascandzief, I.** & Carey, S. (in prep). Thought Experiments as a Tool for Knowledge Creation
- **Bascandzief, I.**, Brod, G., Shafto, P., Bonawitz, E. (in prep). Two objects cannot occupy the same space at the same time: Limiting case analysis in the service of reasoning about water displacement events

## JOURNAL ARTICLES

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1. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (in review). Prosodic cues support inferences about the question's pedagogical intent
2. **Bascandzief, I.**, Abutto, A., Walker, C., & Bonawitz, E. (in review). Mind over Matter: Conflict Monitoring and Science Learning
3. Colantonio, J., Theobald, M., **Bascandzief, I.**, Brod, G., & Bonawitz, E. (in press). Predicting Learning: Understanding the Role of Executive Functions in Children's Belief Revision Using Bayesian Models. *TOPICS*
4. Theobald, M., Colantonio, J., **Bascandzief, I.**, Bonawitz, E., & Brod, G. (2024). Do Reflection Prompts Promote Children's Conflict Monitoring and Revision of Misconceptions? *Child Development*, 10.1111/cdev.14081
5. **Bascandzief, I.** (2024). Thought experiments as an error detection and correction tool. *Cognitive Science*, 48(1), e13401.
6. Colantonio, J., **Bascandzief, I.**, Theobald, M., Brod, G. and Bonawitz, E. (2023). Seeing the Error in my "Bayes": A Quantified Degree of Belief Change Correlates with Children's Pupillary Surprise Responses Following Explicit Predictions. *Entropy*, 25(2), 211.
7. Kominsky, J., **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2023). Talk of the Town Mobile App Platform: New method engaging family in STEM learning and research in homes and communities, *Frontiers in Psychology: Developmental Psychology*, 14, 1110940.
8. Colantonio, J., **Bascandzief, I.**, Theobald, M., Brod, G. and Bonawitz, E. (2022). Priors, progressions, and predictions: Theory-based Bayesian models of children's revising beliefs of water displacement, *IEEE Transactions on Cognitive and Developmental Systems.*, 15, 1487-1500.
9. Tardiff, N., **Bascandzief, I.**, Carey, S., & Zaitchik, D. (2020). Specifying the domain-general resources that contribute to conceptual construction: Evidence from the child's acquisition of vitalist biology. *Cognition*, 195, 104090
10. **Bascandzief, I.**, Tardiff, N., Zaitchik, D., & Carey, S. (2018). The role of domain-general cognitive resources in children's construction of a vitalist theory of biology. *Cognitive Psychology*, 104, 1-28.

11. Tardiff, N., **Bascandzief, I.**, Sandor, K., Carey, S., & Zaitchik, D. (2017). Some consequences of normal aging for generating conceptual explanations: A case study of vitalist biology. *Cognitive Psychology*, 95, 145-163.
12. **Bascandzief, I.**, & Harris, P. L. (2016). The beautiful and the accurate: are children's selective trust decisions biased? *Journal of Experimental Child Psychology*, 152, 92-105.
13. **Bascandzief, I.**, Powell, L. J., Harris, P. L., & Carey, S. (2016). A role for executive functions in explanatory understanding of the physical world. *Cognitive Development*, 39, 71-85
14. Carey, S., Zaitchik, D., & **Bascandzief, I.** (2015). Theories of development: In dialog with Jean Piaget. *Developmental Review*, 38, 36-54.
15. **Bascandzief, I.**, & Harris, P. L. (2014). In beauty we trust: Children prefer information from more attractive informants, *British Journal of Developmental Psychology*, 32, 94-99.
16. **Bascandzief, I.**, & Harris, P. L. (2011). Gravity is not the only ruler for falling events: Young children stop making the gravity error after receiving additional perceptual information about the tubes mechanism, *Journal of Experimental Child Psychology*, 109, 468-477.
17. **Bascandzief, I.**, & Harris, P. L. (2010). The role of testimony in young children's solution of a gravity-driven invisible displacement task, *Cognitive Development*, 25, 233-246.

#### BOOK CHAPTERS

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18. **Bascandzief, I.** (2022). Representational pluralism in the service of learning: The case of thought experiments. In M. Bélanger, Potvin, P., Horst, S., Shtulman, S., & Mortimer, E. (Eds.), *Representational Pluralism*. Routledge
19. **Bascandzief, I.**, & Harris, P.L. (2019). Can children benefit from thought experiments? In P. Godfrey - Smith & A. Levy (Eds.). *The Scientific Imagination*. New York: Oxford University Press.
20. Zaitchik, D., Solomon, G. E. A., Tardiff, N., & **Bascandzief, I.** (2016). Conceptual change: Where domain-specific mechanisms meet domain-general cognitive resources. In D. Barner & A. Baron (Eds.), *Conceptual Change and Core Knowledge*. Oxford, UK: Oxford University Press.

#### PUBLISHED CONFERENCE PROCEEDINGS

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21. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2024). Parents modify their prosody when asking questions with pedagogical intent. In L. K. Samuelson, S. Frank, M. Toneva, A. Mackey, & A. Hazeltine (Eds.), *Proceedings of the 46th Annual Conference of the Cognitive Science Society*. Rotterdam NL: Cognitive Science Society
22. **Bascandzief, I.** & Carey, S. (2022). Young children learn equally from real and thought experiments. In J. Culbertson, A. Perfors, H., Rabagliati, & V. Ramenzoni (Eds.), *Proceedings of the 44th Annual Conference of the Cognitive Science Society*. Toronto CA: Cognitive Science Society
23. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2021). The sound of pedagogical questions. In T. Fitch, C. Lamm, H. Leder, & K. Tessmar-Raible (Eds.), *Proceedings of the 43rd Annual Conference of the Cognitive Science Society*. Vienna, AT: Cognitive Science Society
24. **Bascandzief, I.** (2020). Inconsistencies among beliefs as a basis for learning via thought experiments. In B. C. Armstrong, S. Denison, M. Mack, & Y. Xu (Eds.), *Proceedings of the 42<sup>nd</sup> Annual Conference of the Cognitive Science Society*. Toronto, CA: Cognitive Science Society

## CONFERENCE PRESENTATIONS

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1. **Bascandzief, I.**, Abutto, A., Walker, C., & Bonawitz, E. (2024). *Roles for error detection in theory revision*. Paper presented at the 50<sup>th</sup> Annual Meeting of the Society for Psychology and Philosophy, Purdue University, IN.
2. Abutto, A., **Bascandzief, I.**, Walker, C., & Bonawitz, E. (2024). *Children's hesitancy as a marker of implicit skepticism of incorrect intuitive beliefs*. Poster presented at the meeting of the Cognitive Development Society, Pasadena, CA
3. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2024). *Parents modify their prosody when asking questions with pedagogical intent*. Poster presented at the 46th Annual Conference of the Cognitive Science Society. Rotterdam NL: Cognitive Science Society
4. **Bascandzief, I.**, Abutto, A., Walker, C., & Bonawitz, E. (2024). *Mind over matter: Conflict monitoring and science learning*. Poster presented at the meeting of the Cognitive Development Society, Pasadena, CA
5. **Bascandzief, I.**, Walker, C., & Bonawitz, E. (2023). *Thought experiments as a tool for teaching scientific concepts*. Paper presented at the Biennial EARLI Conference, Thessaloniki, Greece
6. Theobald, Colantonio, **Bascandzief, I.**, Bonawitz, & Brod (2023). *Predicting promotes revision of misconceptions: Evidence from Bayesian models and pupillary surprise*. Paper presented at the Biennial EARLI Conference, Thessaloniki, Greece.
7. **Bascandzief, I.**, Walker, C., & Bonawitz, E. (2022). *Equitable education through active learning*. Paper presented at the 7<sup>th</sup> Biennial IMBES Conference, Montreal CA
8. **Bascandzief, I.** & Carey, S. (2022). *Young children learn equally from real and thought experiments*. Paper presented at the 44th Annual Conference of the Cognitive Science Society. Toronto CA: Cognitive Science Society
9. **Bascandzief, I.**, Shafto, P., & Bonawitz, E., (2022). *Can children recognize pedagogical intent in the prosody of speech?* Poster presented at the 44th Annual Conference of the Cognitive Science Society. Toronto, Canada.
10. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2022). *The prosodic cues of pedagogical and information-seeking questions during parent-child interactions*. Poster presented at the meeting of the Cognitive Development Society, Madison, WI.
11. Colantonio, J., **Bascandzief, I.**, Theobald, M., Brod, G., & Bonawitz, E. (2022). *Theory-based bayesian models of elementary school children's belief revision & pupillary surprise during science learning*. Paper presented at the meeting of the Cognitive Development Society, Madison, WI.
12. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2022). *Who is the teacher? Young children can differentiate between pedagogical and information-seeking questions based on prosody alone*. Paper presented at BCCCD [Conference held virtually due to COVID-19].
13. Colantonio, J., **Bascandzief, I.**, Theobald, M., Brod, G. and Bonawitz, E. (2021). *Theory-Based Bayesian Models of Elementary School Children's Pupillary Surprise*. Paper presented at 2021 SRCD Biennial Meeting [Conference held virtually due to COVID-19].

14. **Bascandzief, I.**, Bridgers, S., Shafto, P., & Bonawitz, E. (2021). *The Sound of Pedagogy: Acoustic Features of Pedagogical and Information-Seeking Questions*. Paper presented at BCCCD [Conference held virtually due to COVID-19].
15. **Bascandzief, I.** (2020). *Inconsistencies among beliefs as a basis for learning via thought experiments*. In B. C. Armstrong, S. Denison, M. Mack, & Y. Xu (Eds.), Paper presented at the 42<sup>nd</sup> Annual Conference of the Cognitive Science Society. Toronto, CA: Cognitive Science Society [Conference held virtually due to COVID-19]
16. **Bascandzief, I.**, Shafto, P., & Bonawitz, E. (2020, July). *Prosodic features carry information about a question's intent*. Poster presented at the 42<sup>nd</sup> Annual Conference of the Cognitive Science Society. Toronto, Canada. [Conference held virtually due to COVID-19]
17. Colantonio, J., **Bascandzief, I.**, Theobald, M., Brod, G. and Bonawitz, E. (2020, July). *Modeling pupillary surprise response in elementary school children with theory-based Bayesian models*. Poster presented at the 42<sup>nd</sup> Annual Conference of the Cognitive Science Society. Toronto, Canada. [Conference held virtually due to COVID-19]
18. Ge, X. & **Bascandzief, I.** (2019, May). *The Role of Reputation and Suspicion in Children's Decision Making*. Poster presented at the annual convention of the Association for Psychological Science, Washington DC.
19. **Bascandzief, I.** & Carey, S. (2019, March). *Reasoning About Forces and Motion Through Thought Experiments*. Poster presented at the 2019 SRCD Biennial Meeting, Baltimore, MD.
20. **Bascandzief, I.**, Starr, E., Khalatbari, D\*, Maron, G\*, Zaitchik, D. & Carey, S. (2017, October). *The Last Straw: Can Thought Experiments Advance Children's Understanding of Weight*. Poster presented at the 2017 CDS Meeting, Portland, OR.
21. **Bascandzief, I.** (2017, August). *The role of domain-general cognitive resources in children's construction of a vitalist theory of biology*. Paper presented at CSAIL, Hood River, OR.
22. **Bascandzief, I.** & Carey, S. (2017, May). *The role of thought experiments in science learning*. Poster presented at the 29<sup>th</sup> APS Annual Convention, Boston, MA.
23. Zaitchik, D., **Bascandzief, I.**, Tardiff, N., & Carey, S. (2017, April). *When facts are not enough: Executive Function and the construction of Vitalist biology*. Paper presented at the 2017 SRCD Biennial Meeting, Austin, TX.
24. **Bascandzief, I.**, Maron, G., Zaitchik, D., & Carey, S. (2016, August). *Can thought experiments advance young children's understanding of matter?* Paper presented at the 2016 International Conference on Thinking, Brown University, Providence, RI
25. **Bascandzief, I.**, Zaitchik, D., & Carey, S. (2015, March). *Exploring the relationship between executive functions and the construction of a vitalist theory of biology in young children*. Paper presented at the 2015 SRCD Biennial Meeting, Philadelphia, PA
26. **Bascandzief, I.**, & Harris, P. L. (2015, March). *The Beauty and the Accurate: How Biased are Children's Selective Trust Decisions?* Poster presented at the 2015 SRCD Biennial Meeting, Philadelphia, PA
27. **Bascandzief, I.**, Harris, P. L. (2013, October). *Do children rely on a non-epistemic mechanism to enrich their epistemic status?* Poster presented at the meeting of the Cognitive Development Society, Memphis, TN.

28. **Bascandzief, I.**, Powell, L. J., Harris, P. L., & Carey, S. (2013, April). *The role of executive functions in the disappearance of the gravity error: A training study*. Poster presented at the SRCD Meeting, Seattle, WA.
29. **Bascandzief, I.**, Harris, P. L. (2011, October). *Pedagogical Signals and Improved Causal Reasoning: Related or Not?* Poster presented at the meeting of the Cognitive Development Society, Philadelphia, PA.
30. **Bascandzief, I.**, Harris, P. L. (2011, April). *Gravity is not the Only Ruler for Falling Events: Understanding the Tubes Mechanism and the Gravity Error*. Poster presented at the 2011 SRCD Biennial Meeting, Montreal, Canada.
31. **Bascandzief, I.**, & Harris, P. L. (2009, October). *The role of testimony in solving a gravity-driven invisible displacement task*. Poster presented at the meeting of the Cognitive Development Society, San Antonio, TX.

## INVITED TALKS

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1. **Bascandzief, I.** (2023, April). *The Mind Lab: Thought experiments as a tool for knowledge creation*. Department of Psychology, University of California, San Diego
2. **Bascandzief, I.** (2022, January). *The nature of the learning mechanisms involved in conceptual construction*. Department of Psychology, University of Wisconsin, Madison
3. **Bascandzief, I.** (2019, March). *Cognitive resources as a window into conceptual development*. Department of Psychology, University of Texas, Dallas.
4. **Bascandzief, I.** (2019, March). *Cognitive resources as a window into conceptual development*. Department of Psychology, Johns Hopkins University

## SERVICE AND PROFESSIONAL ACTIVITIES

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### Ad Hoc Reviewing

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- **Journals:** Nature Reviews Psychology; Trends in Cognitive Sciences (TICS); Cognition; Child Development; Child Development Perspectives; Cognitive Science; Current Psychology; Developmental Psychology; British Journal of Psychology; Cognitive Development; Journal of Experimental Child Psychology; Learning and Instruction; British Journal of Developmental Psychology; Journal of Cognition and Development; Frontiers in Psychology; Human Nature; Thinking & Reasoning; International Journal of Behavioral Development; Human Development; Psychological Reviews: Perceptual and Motor Skills; International Journal of Psychology; Science & Education; Infant and Child Development; Educational Psychology: An International Journal of Experimental Educational Psychology
- **Conferences:** BCCCD; CogSci Conference Proceedings; Society for Philosophy and Psychology

## TEACHING

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### *Harvard Graduate School of Education (2024 –*

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- STEM Education and Child Development

### ***Reed College (2017 – 2019)***

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- Cognitive Processes
- Cognition in STEM Education
- Introductory Psychology
- Cognitive Development
- Developmental Psychology

### ***Clark University (2013 – 2014)***

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- Introduction to Cognition
- Research in Cognitive Development
- What Children Know

### ***Lycoming College (2011 – 2013)***

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- Infancy-Middle Childhood Development
- Introductory Psychology
- Lifespan Development
- Adolescent Development

### ***Harvard University (2005 – 2011) (2014 – 2017)***

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- Contemporary Issues in Psychology: Intensive Cross-level Analyses for Social and Cognitive Neuroscience, Instructor: Igor Bascandziev
- Sophomore Tutorial: Contemporary Issues in Psychology, Harvard College, Instructor: Igor Bascandziev
- Teaching Fellow:
  - o Developmental Psychology
  - o Origins of Knowledge
  - o Introduction to Educational Research
  - o Intermediate Statistics: Applied Regression Data Analysis
  - o Empirical Methods: Introduction to Statistics for Research
  - o The Human Mind: An Introduction to Mind, Brain, and Behavior
  - o Cognitive Psychology
  - o Educational Outcomes in Cross-National and Cross-Cultural Perspectives

### ***Mentorship and Advising***

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2024	Iris Jeffries (Project Coordinator)
2023	Sotheara Veng (Cognitive Development Society Mentorship Program)
2023	Adani Abutto (Master's Thesis)
2022	Eugene Lee (Master's Thesis)
2022	Tatiana Schaefer; Rachel Parker (internship students)
2020	Alejandra Reinoso (summer intern)
2019	Priscilla Mejia (Honors Thesis student)
2018	Two thesis students (Nikhil Wadhwa and Rane Wilson)
2017	Four thesis students (Cody Biesanz; Clarise Sky-Johnson; Karina Aragon; Xiyao Ge)
2016	Jenny Fielder (University of Bath visiting thesis student)
2016	Emma Starr (summer intern)



2016 Garrett Maron (Harvard University Honors Thesis student)  
2015 Dalia Khalatbari (University of Bath visiting thesis student)  
2015 Kara Emery (summer intern)  
2014 Emma Papaioannou (University of Bath visiting thesis student)  
2014 Garrett Maron (summer intern)  
2013 Serina Fuglestad Sikveland (summer intern)  
2011 Maria Renken (summer intern)  
2010 Michelle Bang (summer intern)

## **MEDIA COVERAGE**

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CBS, The Daily Mail (print and online), The Daily Telegraph (print and online), Science Daily, Nature World News, Psychologie Magazine (Dutch monthly magazine comparable to Psychology Today), Radio Interview on #1 Afternoon Radio News Show with John Mercure (Milwaukee, Wisconsin).