

# JEREMY I. BORJON

Dept. of Psychological and Brain Sciences, Indiana University  
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## EDUCATION & POSITIONS

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- Postdoctoral Fellow** 2017 –  
*Indiana University, Bloomington, IN*  
Dept. of Psychological and Brain Sciences  
Advisor: Linda B. Smith  
Co-Advisors: Chen Yu (University of Texas at Austin) & John E. Richards (University of South Carolina)
- Ph.D. in Psychology and Neuroscience** 2012 – 2017  
*Princeton University, Princeton, NJ*  
Dept. of Psychology & Princeton Neuroscience Institute  
Advisor: Asif A. Ghazanfar  
Oral Committee: Asif A. Ghazanfar, Elizabeth Gould, & Casey Lew-Williams  
Reading Committee: Asif A. Ghazanfar, Michael S.A. Graziano, & Jordan A. Taylor  
Dissertation Title: “Autonomic nervous system dynamics and primate vocal production”
- M.A. in Psychology** 2012 – 2014  
*Princeton University, Princeton, NJ*  
Dept. of Psychology & Princeton Neuroscience Institute  
Advisor: Asif A. Ghazanfar  
Thesis Title: “Cardiorespiratory coupling during vocal communication in the common marmoset”
- Simons Fellow in Computational Neuroscience** 2011 – 2012  
*Emory University School of Medicine, Atlanta, GA*  
Marcus Autism Center  
*Yale University School of Medicine, New Haven, CT*  
Child Study Center  
Advisors: Ami Klin & Warren R. Jones
- A.B. in Psychology with certificate in Neuroscience** 2006 – 2010  
*Princeton University, Princeton, NJ*  
Advisors: Asif A. Ghazanfar & Alexander Todorov  
Thesis Title: “The influence of eye gaze and facial expression on spatial hearing”

## RESEARCH GRANTS AND FELLOWSHIPS

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- K99/R00 NICHD 105920 Pathway to Independence Award (PI, \$1,026,360) 2021 – 2026  
NSF SBE Postdoctoral Research Fellowship 1908519 (PI, \$144,750) 2019 – 2021  
Society for Research in Child Development Small Research Grant for Early Career Scholars (PI, \$7,500) 2019 – 2021  
Emerging Areas of Research Initiative, Indiana University 2017 – 2020  
F32 NICHD 100092 National Research Service Award (\$60,610, Percentile 21, Payline 30, Likely Funded) Withdrawn  
T32 NICHD 007475-23:24 Training Program in Integrative Developmental Process (\$96,288) 2017 – 2019  
NSF Graduate Research Fellowship DGE-1148900 (\$138,000, Awarded in April 2012) 2014 – 2017  
President’s Fellowship, Princeton University (\$134,300) 2012 – 2014  
Simons Fellowship in Computational Neuroscience (\$68,000) 2010 – 2012  
Round Table Senior Thesis Grant, Office of the Dean of the College, Princeton University (\$678) 2009 – 2010

## PUBLICATIONS

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† = equal contribution    \* = corresponding author

### RESEARCH REPORTS

**Borjon J.I.**, Abney D.H., Yu C., Smith L.B. (In Prep.). Word production is a motor skill: Broad recruitment of body movement during infant vocalization.

**Borjon J.I.**\*, Abney D.H., Yu C., Smith L.B. (2021). Stable gaze and stable heads: Looking behavior in 12- to 24-month old infants. *Journal of Vision*. 21(8), 1-18.

Gustison M.L., **Borjon J.I.**, Takahashi D.Y., Ghazanfar A.A. (2019). Vocal and locomotor coordination develops in association with arousal state. *eLife*, 8.

**Borjon J.I.**†\*, Abney D.H.†\*, Smith L.B., Yu C. (2018). Developmentally changing attractor dynamics of manual actions on objects in late infancy. *Complexity*. (2018), 4714612.

**Borjon J.I.**, Takahashi D.Y., Cordero D.C., Ghazanfar, A.A. (2016). Arousal dynamics drive vocal production in marmoset monkeys. *Journal of Neurophysiology*. 116, 753-764.

Takahashi D.Y., Fenley A.R., Teramoto Y., Narayanan D.Z., **Borjon J.I.**, Holmes P., Ghazanfar A.A. (2015). The developmental dynamics of marmoset monkey vocal production. *Science*. 349(6249), 734-8.

**Borjon J.I.**†, Shepherd S.V.†, Todorov A., Ghazanfar A.A. (2011). Eye-gaze and arrow cues influence elementary sound perception. *Proceedings of the Royal Society B*. 278, 1997-2004.

#### REVIEWS & COMMENTARIES

**Borjon J.I.**, Ghazanfar A.A. (2014). Convergent evolution of vocal cooperation without convergent evolution of brain size. *Brain, Behavior and Evolution*. 84(2), 93-102.

**Borjon J.I.**, Ghazanfar A.A. (2013). Neural tuning of human face processing. *Proceedings of the National Academy of Sciences of the United States of America*. 110(42), 16702-3.

#### METHOD PAPERS

Maitha C., Goode J.C., Maulucci D.P., Lasassmeh S.M.S., Yu C., Smith L.B., **Borjon J.I.**\* (2020). An open-source, wireless vest for measuring autonomic function in infants. *Behavior Research Methods*.

Slone L.K., Abney D.H., **Borjon J.I.**, Chen C., Percy D., Suarez-Rivera C., Zhang Y., Smith L.B., Yu C. (2018). Gaze in action: Head-mounted eye tracking of children's dynamic visual attention during naturalistic behavior. *Journal of visualized experiments: JoVE*. (141), e58496.

**Borjon J.I.**†, Schroer S.E.†, Bambach S., Slone L.K., Abney D.H., Crandall D.J., Smith L.B. (2018). A view of their own: Capturing the egocentric view of infants and toddlers with head-mounted cameras. *Journal of visualized experiments: JoVE*. (140), e58445.

#### BOOK CHAPTERS

Ghazanfar A.A., Takahashi D.Y., Zhang Y.S., **Borjon, J.I.** (2018). Marmoset monkey vocal communication: Common trajectories with humans and possible mechanisms. In J. Ellison & M. Sera (Eds.). *The Minnesota Symposia on Child Psychology*, Vol. 39. Hoboken: John Wiley & Sons, Inc..

#### INVITED TALKS

Department of Psychology, Stanford University, Palo Alto, CA	February	2022
Development and Learning from Theory to Application Center, University of Iowa, Iowa City, IA	February	2022
Developmental Seminar, Dept. of Psych. and Brain Sciences, Indiana University, Bloomington, IN		2017 – 2021
Center for Cognition, Action and Perception, University of Cincinnati, Cincinnati, OH	March	2020
Graduate Cognitive Research Seminar, Princeton University, Princeton, NJ		2013 – 2017
Huberman Lab, Dept. of Neurobiology, Stanford University, Palo Alto, CA	December	2016
Smith Lab, Dept. of Psych. and Brain Sciences, Indiana University, Bloomington, IN	November	2016
Leopold Lab, Laboratory of Neuropsychology, National Institutes of Health, Bethesda, MD	August	2016
Princeton Research Day, Princeton University, Princeton, NJ	May	2016
Klin Lab, Emory University School of Medicine, Marcus Autism Center, Atlanta, GA	March	2016
PSY/NEU 260 Life Cycle of Behaviors, Princeton University, Princeton, NJ	May	2014
Eskandar Lab, Massachusetts General Hospital, Harvard Medical School, Boston, MA	March	2012

#### CONFERENCE PRESENTATIONS

**Borjon J.I.**, Abney D.H., Yu C., Smith L.B. (2022, July). The motor development of vocal production in late infancy. International Congress of Infant Studies. Ottawa, CA. Talk.

- Benham, S., **Borjon J.I.**, Yu C., Smith L.B. (2022, July). The alignment of vocalization onset with head and hand movement in infants and toddlers: speech and language contributions. International Congress of Infant Studies. Ottawa, CA. Poster.
- Borjon J.I.**, Abney D.H., Yu C., Smith L.B. (2020, July). Stable gaze in 12- to 24-month-old infants requires a still head and eye-head alignment. International Congress of Infant Studies. Virtual. Poster.
- Borjon J.I.**, Abney D.H., Ouzzine A., Nystrom O., Yu C., Smith L.B. (2020, July). The motor coordination of vocal production in late infancy. International Congress of Infant Studies. Virtual. Poster.
- Maitha C., Goode J.C., Maulucci D.P., Lasassmeh S.M.S., Yu C., Smith L.B., **Borjon J.I.** (2020, July). An open-source, wireless vest for measuring autonomic function in infants. International Congress of Infant Studies. Virtual. Poster.
- Borjon J.I.**, Abney D.H., Yu C., Smith L.B. (2019, August). Attractor dynamics of vocal production in late infancy. Lancaster Conference on Infant and Child Development. Lancaster, UK. Talk.
- Borjon J.I.**, Abney D.H., Yu C., Smith L.B. (2019, July). The development of vocal-manual coordination in late infancy. International Conference on Perception and Action. Gronigen, NL. Talk.
- Borjon J.I.**, Abney D.H., Mendez A., Yu C., Smith L.B. (2019, March). The sensorimotor coordination of vocal production in late infancy. Biennial Meeting of the Society for Research in Child Development. Baltimore, MD. Poster.
- Borjon J.I.**, Abney D.H., Smith L.B., Yu C. (2019, March). Developmentally changing attractor dynamics of manual actions on objects in late infancy. Biennial Meeting of the Society for Research in Child Development. Baltimore, MD. Poster.
- Gustison, M.L., **Borjon, J.I.**, Takahashi, D.Y., Ghazanfar, A.A. (2018, August). Energy mediates developmental interactions between vocal, postural and locomotor behaviors in marmoset monkeys. 55th Annual Conference of the Animal Behavior Society, Milwaukee, WI. Poster.
- Borjon, J.I.**, Abney D.H., Yu C., Smith L.B. (2018, July). The sensorimotor development of naturalistic looking behavior in infants. International Congress for Neuroethology. Brisbane, QLD. Poster.
- Borjon, J.I.**, Abney D.H., Yu C., Smith L.B. (2018, July). The sensorimotor development of naturalistic looking behavior in infants. International Congress of Infant Studies. Philadelphia, PA. Poster.
- Borjon J.I.**, Takahashi D.Y., Cordero D.C., Ghazanfar, A.A. (2015, October). Cardiorespiratory dynamics of vocal production in marmoset monkeys. Society for Neuroscience Annual Meeting. Chicago, IL. Poster.
- Borjon J.I.**, Takahashi D.Y. and Ghazanfar A.A. (2013, October) Vocal-respiratory coupling in marmoset monkeys. Society for Neuroscience Annual Meeting. San Diego, CA. Poster.
- Borjon J.I.**, Trubanova A., Shepherd S.V., Jones W., Klin A., Ghazanfar A.A. (2012, March). Socially contextualized multisensory integration processing in autism. International Meeting for Autism Research. Toronto, ON. Poster.
- Borjon J.I.**, Goursaud A.P., Jones W., Bachevalier J. (2011, May). Social monitoring in rhesus monkeys with lesions to either the amygdala, hippocampus, or orbitofrontal cortex. International Meeting for Autism Research. San Diego, CA. Talk.
- Borjon J.I.**, Shepherd S.V., Jones W., Klin A., Ghazanfar A.A. (2011, May). The influence of perceived gaze cues on elementary sound perception in individuals with autism. International Meeting for Autism Research. San Diego, CA. Poster.
- Borjon J.I.**, Shepherd S.V., Todorov A., Ghazanfar A.A. (2010, October). Social cues influence elementary sound perception. Social and Affective Neuroscience Society Annual Meeting. Chicago, IL. Poster.
- Borjon J.I.**, Shepherd S.V., Todorov A., Ghazanfar A.A. (2010, May). Observed eye gaze influences elementary sound perception. Princeton University Undergraduate Research Symposium. Princeton, NJ. Poster.

## ACADEMIC HONORS AND AWARDS

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Sigma Xi Scientific Research Society	2010
Edward E. Jones Memorial Senior Thesis Prize, Dept. of Psychology, Princeton University	2010
3 <sup>rd</sup> Place Undergraduate Research Symposium, Princeton University	2010
Class Day Student Speaker, Dept. of Psychology, Princeton University	2010
The Frank A. Petito, Class of 1936 Scholarship, Princeton University	2009 – 2010
The Howard Crosby Warren Scholarship, Princeton University	2008 – 2010
Early Concentration, Dept. of Psychology, Princeton University	2008
Outstanding Work by a Sophomore (Fiction), Peter B. Lewis Center for the Arts, Princeton University	2008
The Class of 1916 National Scholarship, Princeton University	2007 – 2008

The Kenneth Sawyer Goodman War Memorial Scholarship, Princeton University	2007 – 2008
Walter E. Hope Class of 1901 Memorial Freshman Debate, Finalist, Princeton University	2007
The Edward Franklin Pelton Memorial Scholarship, Princeton University	2006 – 2007
The Class of 1898 Scholarship, Princeton University	2006 – 2007

## SERVICE

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### UNIVERSITY SERVICE

Mentor, Office of the Vice President for Diversity, Equity, and Multicultural Affairs, Indiana University	2018 –
ReMatch Graduate Mentor, Office of Undergraduate Research, Princeton University	2015 – 2016
Graduate Representative, Hidden Minority Council, Princeton University	2015 – 2016
Outreach Chair, Latino Graduate Student Association, Princeton University	2014 – 2015
Graduate Representative, Dept. of Psychology, Princeton University	2012 – 2015

### PUBLIC SERVICE

Project Coordinator, All Things Attention Workshop, Thirty-sixth Conference on Neural Information Processing Systems, New Orleans, LA	2022
Vice-President, Association of Latino Princeton Alumni	2020 – 2022
Treasurer, Association of Latino Princeton Alumni	2018 – 2020
Board Member, Association of Latino Princeton Alumni	2017 – 2022
President, Latino Graduate Student Association, Princeton University	2015 – 2016

## AD HOC REVIEWING

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### ACADEMIC JOURNALS

eLife, Developmental Science, Child Development, Animal Cognition, Developmental Cognitive Neuroscience, Behavioural Processes

### GRANTS

Society for Research in Child Development Small Grants Program for Early Career Scholars (2021 – 2022)

## PROSPECTIVE TEACHING INTERESTS

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I would be excited to teach a wide variety of courses. Given my background in psychology, neuroscience, and computational methods, I would be comfortable teaching introductory courses in psychology, neuroscience, statistics, as well as more specialized courses in developmental psychology, cognitive neuroscience, and research methods.

## TEACHING EXPERIENCE

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Assistant Instructor for The Life Cycle of Behaviors (PSY/NEU 260), Princeton University Professor: Asif Ghazanfar	Spring	2014
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## MENTORING

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Alana Snelson, Undergraduate Research Assistant at Indiana University - Currently a Research Assistant at Boston University School of Medicine		2021 – 2022
Brittany Alberts, Undergraduate Research Assistant at Indiana University - Currently a Program Coordinator at the University of Pittsburgh		2019 – 2021
Manash “Kal” Sahoo, Undergraduate Research Assistant at Indiana University - Advanced Summer Research Scholar, Indiana University - J.R. Kantor Prize in Psychology, Indiana University - Currently a Simons Fellow in Computational Neuroscience at Emory University		2019 – 2021
Olivia G. Nystrom, Undergraduate Research Assistant at Indiana University - Hutton Honors College Undergraduate Research Partner, Indiana University - Emerging Areas of Research Undergraduate Research Scholar, Indiana University		2019 – 2020
Ellis S. Cain, Undergraduate Research Assistant at Indiana University - Currently a graduate student at the University of California, Merced		2020
Danielle P. Maulucci, Undergraduate Capstone Research Assistant at Indiana University - Currently a Master’s student in Genetic Counseling at Case Western University		2018 – 2020

J.I. Borjon

Abir Ouzzine, Undergraduate Capstone Research Assistant at Indiana University	2018 – 2020
- Currently a post-baccalaureate medical student at Indiana University, Purdue University, Indianapolis	
Linnan Li, Undergraduate Research Assistant at Indiana University	2017 – 2019
- Currently a Master's student in Health Informatics at Northeastern University	
Zimeng Liu, Undergraduate Research Assistant at Indiana University	2017 – 2018
- Currently a Master's student in Communication and Education at Columbia University	
A.J. Sermarini, ReMatch Undergraduate Research Mentee at Princeton University	2016 – 2017
- Currently a medical student at the Vanderbilt University School of Medicine	

## **PROFESSIONAL MEMBERSHIPS**

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Society for Research in Child Development  
International Congress of Infant Studies  
International Society for Neuroethology  
Society for the Advancement of Native Americans and Chicanos in Science

## **SKILLS**

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MATLAB computer programming for data analysis, R Programming Language, Python, SQL, SPSS/PASW, Presentation, Adobe Creative Suite, Apple Final Cut Pro, Microsoft Office

## **LANGUAGES**

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Fluent in English and Spanish. Learning German.