

## Curriculum Vitae

# Aiden Leigh Ford

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Citizenship: United States of America, Republic of Ireland

## RESEARCH INTERESTS

The mechanisms by which modifiable factors, including early social experience, result in individual neurobehavioral variability. Committed to translational research with applications for public health policy.

## EDUCATION

- 2013-2017     **B.S. in Physiology and Neurobiology with Honors; Neurodevelopment and Health**  
**Minors: Anthropology, Neuroscience**  
*Summa Cum Laude*  
 University of Connecticut, Storrs, Connecticut
- 2019-2024     **Neuroscience Graduate Program, PhD**  
**Dissertation title:** *Infant neurobehavioral development as a product of iterative, transactional engagement with their familial and social contexts*  
 Emory University, Atlanta, Georgia

## RESEARCH APPOINTMENTS

- 2014-2016     **Undergraduate Researcher**, *Fitch Lab, Department of Psychology, University of Connecticut*
- Evaluated the behavioral phenotype associated with impaired *CACNA1C* calcium signaling using the TS2-neo mouse model of Timothy Syndrome-mediated autism – funded by PURG and SURF grants to Aiden Ford
- 2016-2017     **University Scholar**, *Department of Physiology and Neurobiology, University of Connecticut*  
 Advisor: R. Holly Fitch, PhD
- Prestigious designation awarded to students driven to pursue independent scholarship, 1 of 23 in the Class of 2017 (6,089 students total)
  - Scholar Project: Determined the impact of the *CACNA1C* mutation on white matter tract volume and the development of cortical lamina using post-mortem histological and immunohistochemical approaches – funded by IDEA grant to Aiden Ford
- 2017-2019     **Donald J. Cohen Fellow in Developmental Social Neuroscience**,  
*Marcus Autism Center, Atlanta, Georgia*  
 Mentors: Ami Klin, PhD; Sarah Shultz, PhD; Longchuan Li, PhD; Warren Jones, PhD
- Quantified dynamic allocation of visual attention to assess patterns of social cognition in toddlers across the spectrum of social ability: typical development, Williams syndrome, Autism Spectrum Disorder
  - Testing time-varying developmental associations between trajectories of social visual engagement and early brain maturation in typically developing infant
- 2019-2024     **National Science Foundation Graduate Research Fellow**,  
 PhD Candidate, Neuroscience Program, *Emory University, Atlanta, Georgia*  
 Advisor: Sarah Shultz, PhD
- Assess how early social experience – social visual engagement, dyadic interaction with caregivers – influences the structural and functional architecture of the infant brain
  - Develop and apply novel computational methods – nonparametric longitudinal regression models, deep learning networks – to the above research topics

## HONORS AND AWARDS

### Fellowships

- 2019- Graduate Research Fellowship Program, National Science Foundation  
 2019- George W. Woodruff Fellowship, Emory University

## Honors/Awards

- 2015 Psychology Undergraduate Research Grant (PURG), University of Connecticut
- 2015 Summer Undergraduate Research Fund Award (SURF), University of Connecticut
- 2016 IDEA Grant, University of Connecticut
- 2017 Outstanding Woman Scholar, University of Connecticut, College of Liberal Arts & Sciences
- 2019 First Place Poster, Southeastern Pediatrics Research Conference
- 2019 International Society for Autism Research 2019 Annual Meeting Student Travel Award
- 2021 Second Place Poster, Southeastern Pediatrics Research Conference
- 2022 Young Investigator Award, Fetal Infant & Toddler Neuroimaging Group
- 2022 Best Poster Award, Fetal Infant & Toddler Neuroimaging Group
- 2022 Trainee of the Year, Marcus Autism Center

## PUBLICATIONS

### Refereed

- A. Rendall, **A. Ford**, P. Perrino, R.H. Fitch (2017). *Auditory processing enhancements in the TS2-Neo mouse model of Timothy Syndrome, a rare genetic disorder associated with autism spectrum disorders*. *Advances in Neurodevelopmental Disorders*, 1, 176-189. PMID 29159279.
- A. Ford**, Z. A. Kovacs-Balint, A. Wang, E. Feczko, E. Earl, O. Miranda-Dominguez, L. Li, M. Styner, D. Fair, W. Jones, J. Bachevalier, M. Sanchez. (2023). *Functional maturation in visual pathways predicts attention to the eyes in infant rhesus macaques: effects of social status*. *Developmental Cognitive Neuroscience*, 60. PMID 36774827.  
*Corrigendum in Dev Cogn Neurosci. 2024 Mar 15:101364. doi: 10.1016/j.dcn.2024.101364. Epub ahead of print. Erratum for: Dev Cogn Neurosci. 2023 Apr;60:101213. PMID: 38490845.*
- FIT'NG, M. Korom, M.C. Camacho, **A. Ford**, H. Taha, D. Scheinost, M. Spann, K. Vaughn. (2023). *An Opportunity to Increase Collaborative Science in Fetal, Infant, and Toddler Neuroimaging*. *Biological Psychiatry*, 93:10, 864-866. PMID 235987717.
- A. Ford\*** & Z. Ammar\*, L. Li, S. Shultz. (2023). *Lateralization of major white matter tracts during infancy is time-varying and tract-specific*. *Cerebral Cortex*, 19, 10221-10233. PMID **37595203**.
- (Accepted) **A. Ford**, H. Walum, B. Brice<sup>+</sup>, H. Patel<sup>+</sup>, S. Kunnikuru<sup>+</sup>, W. Jones, G. Berman, S. Shultz. *Caregiver greeting to infants under 6 months already reflects emerging differences in those later diagnosed with autism*. *Proceedings of the Royal Society B: Biological Sciences*. doi: 10.1098/rspb.2023.2494.

### Consortium Authorship

- A. Pollatou, C. A. Filippi, E. Aydin, K. Vaughn, D. Thompson, M. Korom, A. J. Dufford, B. Howell, L. Zöllei, A. Di Martino, A. Graham, E. Robinson, **FIT'NG\*\***, D. Scheinost, M. Spann. (2022). *An ode to fetal, infant, and toddler neuroimaging: Chronicling early clinical to research applications with MRI, and an introduction to a society connecting the field*. *Developmental Cognitive Neuroscience*, 54, 101083. PMID 35184026.
- M. Korom & M. C. Camacho, C. A. Filippi, R. Licandro, L. A. Moore, A. Dufford, L. Zöllei, A. M. Graham, M. Spann, B. Howell, **FIT'NG\*\***, S. Shultz & D. Scheinost (2022). *Dear reviewers: Responses to common reviewer critiques about infant neuroimaging studies*. *Developmental Cognitive Neuroscience*, 53, 101055. PMID 34974250.
- M. Spann, J. Wisnowski, HBCD Phase I Scanning Young Populations Working Group, C. Smyser, **FIT'NG\*\***, B. Howell, D. Dean III. (2022). *The Art, Science, and Secrets of Scanning Young Children*. *Biological Psychiatry*, 93:10, 858-860. PMID: 36336497.

### In Preparation

- A. Ford**, J. Kortanek<sup>+</sup>, L. Li, Z. Ammar, X. Dai & S. Shultz. *A developmental neuroscientist's guide to functional data analysis: Tools for mapping the dynamics of sparse longitudinal data*.
- A. Ford**, X. Dai, L. Li, W. Jones, A. Klin, S. Shultz. *Maturation of motor corticofugal tracts predicts preferential attention to the eyes of others in early infancy*.

\* Co-first authors

\*\*Acknowledged for contributions to the paper

+ Mentored students

### Other Publications:

**A. Ford**, (2017, Aug 19). “Do Children Have the Right to Contribute to Medical Decisions about their own Care? An Analysis of Policy and Practice in the United Kingdom and the United States.” Retrieved from Health and Human Rights: Perspectives, <https://www.hhrjournal.org/>

### Abstracts:

- 2018 **A. Ford**, S. Markert, J. Olmstead, A. Klin, S. Shultz, M. Lense, W. Jones, *Divergent patterns of time-varying visual attention to social stimuli in toddlers with autism spectrum disorder and Williams Syndrome*. INSAR Annual Meeting, May 2018, Rotterdam, Netherlands
- 2018 **A. Ford**, S. Markert, J. Olmstead, A. Klin, S. Shultz, M. Lense, W. Jones, *Divergent patterns of time-varying visual attention to social stimuli in toddlers with autism spectrum disorder and Williams Syndrome*. Southeastern Pediatrics Research Conference, June 2018, Atlanta GA.
- 2018 S. Markert, J. Olmstead, **A. Ford**, A. Klin, C. Klaiman, M. Lense, S. Shultz, W. Jones, *The Adaptive Value of Attending to Social Stimuli Differs for Toddlers with Autism Spectrum Disorder and Williams Syndrome*. INSAR Annual Meeting, May 2018, Rotterdam, Netherlands
- 2018 J. Olmstead, **A. Ford**, S. Markert, A. Klin, W. Jones, M. Lense, S. Shultz, *Specificity of Social Visual Engagement Patterns in Toddlers with Autism Spectrum Disorder and Williams Syndrome*. INSAR Annual Meeting, May 2018, Rotterdam, Netherlands
- 2019 **A. Ford**, L. Li, W. Jones, A. Klin, S. Shultz. *Associations between changes in social visual engagement and white matter microstructure during the first 6 months of life*. INSAR Annual Meeting, May 2019, Montreal, Canada
- 2019 **A. Ford**, L. Li, W. Jones, A. Klin, S. Shultz. *Associations between changes in social visual engagement and white matter microstructure during the first 6 months of life*. Southeastern Pediatrics Research Conference, June 2019, Atlanta GA. First Place Poster Winner.
- 2019 \*Z. Ammar, \***A. Ford**, L. Li, S. Shultz. *Neural mechanisms associated with neonatal reflexes*. Flux Congress, September 2019, New York City NY.
- 2020 Z. Ammar, N. Brane, **A. Ford**, L. Li, A. Klin, W. Jones, S. Shultz. *The development of infant visual attention from birth to 6 months of age*. International Congress of Infant Studies, July 2020. Virtual Meeting.
- 2020 **A. Ford**, W. Jones, L. Li, S. Shultz. *Neurobehavioral precursors of selective attention to the mouth: social visual engagement scaffolds mechanisms of language learning in typical infancy*. International Congress of Infant Studies, July 2020. Virtual Meeting.
- 2020 \***A. Ford**, \*Z. Ammar, S. Shultz, L. Li. *Time-varying lateralization of major white matter tracts in the developing infant brain*. Flux Congress, September 2020. Virtual Meeting. Featured by the Fetal, Infant, Toddler Neuroimaging Group Pre-Conference Workshop.
- 2021 **A. Ford**, A. Wang, J. Steele, C. Payne, S. Bounar, T. Jonesteller, J. Wesson, E. Feczko, E. Earl, L. Li, M. Styner, D. Fair, W. Jones, J. Bachevalier, M. Sanchez, Z. A. Kovacs-Balint. *Attention to the eyes is related to maturation of the visual object pathway in infant rhesus macaques*. INSAR Annual Meeting, May 2021. Virtual Meeting.
- 2021 **A. Ford**, A. Wang, J. Steele, C. Payne, S. Bounar, T. Jonesteller, J. Wesson, E. Feczko, E. Earl, L. Li, M. Styner, D. Fair, W. Jones, J. Bachevalier, M. Sanchez, Z. A. Kovacs-Balint. *Attention to the eyes is related to maturation of the visual object pathway in infant rhesus macaques*. Southeastern Pediatrics Research Conference, June 2021. Virtual Meeting. Second Place Poster.
- 2022 **A. Ford**, X. Dai, L. Li, Z. Ammar, W. Jones, A. Klin, S. Shultz. *The amount and timing of attention to the eyes are differentially associated with white matter maturation*. INSAR Annual Meeting, May 2022. Austin, Texas
- 2022 B. Brice\*\* & H. Patel\*\*+, **A. Ford**, H. Wallum, S. Kunnikuru+, A. Klin, W. Jones, G. Berman, S. Shultz. *Behavioral dynamics of infant-caregiver interactions in the first 6 months of life are altered by infant sex and autism outcome*. Southeastern Pediatrics Research Conference, June 3<sup>rd</sup>, 2022. Atlanta, GA.
- 2022 E. Joe, Z. Ammar, **A. Ford**, L. Li, S. Shultz. *Time-varying lateralization of infant white matter tracts and the development of the corpus callosum*. Southeastern Pediatrics Research Conference, June 3<sup>rd</sup>, 2022. Atlanta, GA.
- 2022 **A. Ford**, X. Dai, L. Li, Z. Ammar, W. Jones, A. Klin, S. Shultz. *Maturation of pyramidal tracts supports the emergence of preferential attention to the eyes during infancy*. Flux Congress, September 2022. Paris, France.
- 2022 **A. Ford\*** & Z. Ammar\*, S. Shultz, L. Li. *Lateralization of major white matter tracts from 0-6 months is time-varying and tract specific*. Fetal, Infant, and Toddler Neuroimaging Group Conference, September 2022. Paris, France. Best Poster Award.
- 2023 N. Pilgeram, M. Alvarado, K. Bailey, M. Leon Bautista, B. Dockery, **A. Ford**, S. Ginsberg, W. Jones, T.

Jonesteller, P. Karur, Z. Kovacs-Balint, J. Parades, J. Wesson, M. Sanchez, J. Bachevalier. *Rhesus macaque infants born to low-ranking dams show heightened vigilance in viewing videos of dam-infant interactions*. Wisconsin Symposium on Emotion, April 2023. Madison, WI, USA.

2024 E. Kortanek<sup>+</sup>, **A. Ford**, S. Shultz, W. Jones, A. Klin, L. Edwards. *Preferential attention to the eyes of others during early infancy predicts expressive language acquisition in typically developing toddlers but not in autistic toddlers*. 56th Gatlinburg Conference. April 2024. Kansas City, MO, USA.

\* Co-first authors

+ Mentored students

## PRESENTATIONS

### Institutional

2019 **A. Ford**, L. Li, W. Jones, A. Klin, S. Shultz, *The iterative development of social brain and behavior in typical infancy with insights for the emergence of autism*. Marcus Autism Center Grand Rounds, May 24, 2019.

2022 **A. Ford**. *Maturation of pyramidal tracts supports a critical transition in social visual engagement known to be disrupted in autism spectrum disorder*. Emory Neuroscience Program ENCORE Series, April 7, 2022.

### Regional

2021 **A. Ford**. *Development of face visual processing using combined eye-tracking and MRI: in search of nonhuman primate models of social deficits of relevance to Autism*. Autism Center of Excellence Investigator 2021 Virtual Meeting, in partnership with the NIH, June 21-22, 2021

2022 **A. Ford** & S. Shultz. *Behavioral differences in infant-caregiver interactions from 0-6 months in autism*. Baby Siblings Research Consortium Annual Meeting. November 4, 2022. Minneapolis, Minnesota.

### International

2022 **A. Ford** & S. Shultz. *Methods for testing time-varying associations between trajectories of brain development and dynamics of infant social behavior*. International Congress for Infant Studies; Pre-Conference Workshop: New Methods in Infant Social Neuroscience. July 7, 2022. Ottawa, Canada.

2022 **A. Ford**, X. Dai, L. Li, Z. Ammar, W. Jones, A. Klin, S. Shultz. *Functional regression methods reveal maturation of corticofugal motor tracts supports a critical transition in social visual engagement*. Fetal, Infant, and Toddler Neuroimaging Group Conference: Innovative Methods and Analysis Techniques Symposium. September 6, 2022. Paris, France.

## RESEARCH GRANTS

08/01/2019- National Science Foundation Graduate Research Fellowship

06/01/2024 Award: \$138,000 in 3 years from 2019-2024

Role: Fellow

## MEDIA COVERAGE

06/20/2023 Emory Report – Research: Maturation of visual pathways spotlights early effects of social status on social development.

Press release featuring Ford et al. 2023, Dev Cog Neuro

[https://news.emory.edu/stories/2023/06/er\\_early\\_brain\\_markers\\_20-06-2023/story.html](https://news.emory.edu/stories/2023/06/er_early_brain_markers_20-06-2023/story.html)

## PROFESSIONAL ACTIVITIES

2016-2017 **Conference Director**, TEDxUConn, University of Connecticut, <http://tedxuconn.com/>

2016-2017 **Program Coordinator**, Women in STEM Mentoring Program, UConn Women's Center, University of Connecticut

2017 – Present **Student Member**, International Society for Autism Research

2019 – Present **Student Member**, Flux Society for Developmental Cognitive Neuroscience

2020 – Present **Student Member**, International Congress of Infant Studies

2022 – Present **Student Member**, Fetal Infant and Toddler Neuroimaging Group

## PEER REVIEW ACTIVITIES

- 2020 – Present **Reviewer**, *Journal of Autism and Developmental Disorders*  
 2021 – Present **Reviewer**, *Cerebral Cortex*

## TEACHING

- 2021 **Teaching Assistant, Behavioral Neuroscience – NBB 302, Emory University**  
**Faculty advisor: Michael Crutcher, PhD**  
 This course is taught to junior and senior undergraduates, and integrates findings at the intersection of animal behavior, clinical neuroscience, systems neuroscience. Designed and presented a lecture entitled, Social Cognition.
- 2022 **Guest Lecturer, Behavioral Neuroscience – NBB 302, Emory University**  
**Faculty advisor: Michael Crutcher, PhD**  
 Designed and presented a lecture entitled, Social Cognition.
- 2022 **Guest Speaker, Georgia State University Summer Neuroscience School**  
 Presented a lecture and activity about studying autism from a developmental lens.
- 2021-2023 **Member of managing team, FIT'NG Together**  
 FIT'NG Together is a public, virtual event series from FIT'NG – the Fetal, Infant, Toddler Neuroimaging Group. In the last 2 years, we have hosted 21 events attended by a total of 535 participants. <https://fitng.org/fitng-together/>
- 2023 **Teaching Assistant, R Training Course – Marcus Autism Center**  
**Instructor: Hasse Walum, PhD**

## MENTORING

### Undergraduate Students, Emory University

- 2021 Sanjana Kunnikuru, Neuroscience and Behavioral Biology  
 2021 – 2023 Beyonce Brice, Biology and Anthropology  
 2021 – 2023 Hely Patel, Neuroscience and Behavioral Biology  
 Honors Thesis Mentor, Title: *Characterizing the Temporal Relationship Between Infant Eye Contact and Caregiver Greeting in Infants Later Diagnosed with Autism*
- 2023 Emma Macmanus, Psychology  
 2023 – Present Aanya Ravichander, Human Health  
 2023 – Present Harleigh Markowitz, Human Health

### Post-Baccalaureate Research Fellows, Marcus Autism Center

- 2023 – Present Jamie Kortanek, Donald J. Cohen Fellow in Developmental Social Neuroscience  
 2023 – Present Rola Adebogun, Sally Provence Fellow in Clinical Research  
 2023 – Present Dylan Douglas-Brown, Donald J. Cohen Fellow in Developmental Social Neuroscience

## SERVICE

- 2018 – Present **Volunteer**, Atlanta Science Festival  
 2019 – 2020 **Mentor**, Association for Women in Science Mentorship Program, Emory Chapter  
 2020 **Mentor**, 2020 Flux Congress Mentoring Program  
 2020 – 2022 **Co-lead & Founder**, Computational Neuroscience Journal Club, Emory University  
 2021 – Present **Student Representative**, Emory Neuroscience Program Curriculum Committee  
 2021 – 2022 **Workshop and Exhibition Volunteer**, Atlanta Brain Bee  
 2022 – Present **Mentor**, Next-Gen Psych Scholars Program

### ***Fetal, Infant, Toddler Neuroimaging Group (www.fitng.org)***

- 2020 – 2021 **Volunteer**, Community Exchange and Collaboration Team  
 2021 **Scientific Program Committee**, 2021 Satellite Meeting, FIT'NG All Ages. Virtual Meeting, September 2021  
 2021 – 2022 **Committee & Founding Member**, Trainee Committee  
 2021 – 2023 **Committee Member**, Communications Committee  
 2022 – 2023 **Committee Chair**, Trainee Committee