



Boston Children's Hospital



Harvard University

October 4, 2019

Faculty Search Committee  
Departments of Psychology and Neuroscience  
Pomona College  
333 N. College Way  
Claremont, CA 91711

Dear members of the Search Committee:

I am writing to apply for the Assistant Professor position in Psychological Science and Neuroscience at Pomona College. I am currently a postdoctoral fellow at Harvard University in the Labs of Cognitive Neuroscience, working with Drs. Charles A. Nelson and Takao Hensch. I have previously completed my Ph.D. in Developmental Psychology with Dr. Nim Tottenham at Columbia University. Though I have completed my training at research-intensive universities, *I am committed to pursuing a career at a liberal arts college.*

My research program *examines how environmental experiences interact with brain plasticity across development to shape our brains, minds, and behavior.* I seek to provide a mechanistic account of affective and cognitive development by integrating behavioral paradigms with physiology, fMRI and EEG measurements, and original methodological approaches. My research program addresses the following enduring questions about the developmental origins of adult function:

- 1) How and when do environmental experiences influence development?
- 2) What are the brain plasticity mechanisms that support this experience-driven development?
- 3) How do interactions between environmental experiences and brain plasticity produce healthy or maladaptive behavioral outcomes?

I have addressed these questions with fMRI approaches in typical experience-driven development, and tested how negative experiences (e.g. adversity) or disrupted plasticity (e.g. developmental disorders) alter development. For example, I have demonstrated how normative socioemotional experiences, including caregiving, music, and language, become embedded in brain function to shape typical development and influence adult behavior. I have also shown how adversity and atypical plasticity may shift the timing of experience-driven development to generate both adaptive and maladaptive socioemotional outcomes. My future research will complement these areas by 1) integrating computational measures and approaches with large, publically available developmental fMRI datasets (e.g. ABCD study) to inform new mechanisms of experience-driven affective development and to predict individual outcomes, and 2) examining positive factors that promote typical and resilient experience-driven affective development, including sleep and physical activity, through active collaborations with neuroimaging centers in southern California (e.g. UCLA).

I am eager to contribute to Pomona College as an impactful researcher, collaborator, teacher, and mentor. I would welcome the opportunity to collaborate on projects examining affective development and the influence of parenting behavior and interventions on child brain, physiology, and behavior. I would also be excited to collaborate on studies examining the effects of stress on the brain and mental and physical health in development and across species. My research complements Pomona's existing strengths in neuroscience examining neuroplasticity and learning in animal models as well. To date, my research program has produced 32 publications, including first-authored publications in journals with

broad readership such as *Nature Communications*, *Psychological Science*, and *The Journal of Neuroscience*, with a manuscript currently under review at *Science*. I am also committed to furthering open and reproducible science; I have developed and shared novel neuroimaging methods and open-source software packages with the community that I would continue to develop with my undergraduate mentees to give them exposure to state-of-the-art neuroimaging techniques.

With respect to teaching and mentoring, I have experience with both psychology and neuroscience courses as emphasized in the job search, and I have already taught small seminars for advanced students on topics in neuroscience and neuroimaging approaches. I have additional experience teaching my own section and laboratory for a psychology statistics course. I would be delighted to teach introductory psychology, an advanced seminar on emotion, and a laboratory course on emotion using fMRI approaches, as well as design new courses to engage students with affective neuroscience at Pomona College. Throughout my training, I have actively sought opportunities for pedagogy development, and I am proud to have received top teaching effectiveness ratings from the students in each of my courses. My students kindly nominated me for a teaching award at UCLA, even though I was too junior to qualify. Moreover, I am dedicated to fostering diversity, equity, and inclusion by taking an active role in providing support and removing barriers to the recruitment and advancement of individuals from underrepresented backgrounds and identities. I have had the privilege of mentoring 16 students to date from diverse ethnic and sociocultural backgrounds, and I have been actively involved in outreach efforts to encourage underrepresented groups' participation in STEM fields. I look forward to continuing these efforts to promote an inclusive campus community as a principal investigator and mentor. I am particularly excited about the campus community at Pomona; my partner is a Pomona alumnus who remains in touch with his Pomona professors and mentors to this day. His incredibly positive experiences with the teaching environment, fellow students, and campus culture reinforce my enthusiasm for the opportunity to join the Pomona academic community.

Enclosed please find my curriculum vitae, research, teaching, and diversity statements, and three representative publications. Letters of reference are forthcoming from Drs. Charles A. Nelson, Nim Tottenham, and Kate McLaughlin.

Thank you for your time. Should you require any additional information, please do not hesitate to contact me. I very much appreciate the search committee's consideration of my application.

Sincerely,



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