OMB No. 0925-0001 and 0925-0002 (Rev. 03/2020 Approved Through 02/28/2023)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FIVE PAGES.

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| NAME: Martschenko, Daphne Oluwaseun |
| eRA COMMONS USER NAME (credential, e.g., agency login): daphemarts |
| POSITION TITLE: Postdoctoral Fellow |

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

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| --- | --- | --- | --- |
| INSTITUTION AND LOCATION | DEGREE (if applicable) | END DATE MM/YYYY | FIELD OF STUDY |
| Stanford University | BA | 06/2014 | Slavic Languages & Literatures |
| Stanford University | BA | 06/2014 | Anthropology |
| University of Cambridge | MPHIL | 04/2016 | Politics, Development, and Democratic Education |
| University of Cambridge | PHD | 07/2019 | Education |

### A. Personal Statement

As genome sequencing continues to grow as a commodity, educators, policy makers, health care practitioners, and insurance companies will increasingly have to think about the applications for and implications of genomic data. I am a Postdoctoral Research Fellow at the Stanford Center for Biomedical Ethics. I use sociological approaches to investigate the ethical and social implications of genetics/genomics and identify policy recommendations to address these issues. I have a strong interest in the implications of genetics for racial equity and justice. This has led me to advocate for and facilitate research efforts that promote socially responsible research and research communication in genetics broadly and social and behavioral genomics specifically. As such, much of my current work involves promoting and engaging in socially responsible communication of social and behavioral genomics through ‘adversarial collaborations’– research partnerships between researchers from different disciplines with opposing viewpoints. I believe collaborations such as this will help move the conversation on the risks, benefits, and ethics of social and behavioral genomics past critique to a more constructive process.

I began my career as a mixed-methods researcher at the nexus of education, sociology, and bioethics. In 2019 I completed a PhD in Education from the University of Cambridge. At Cambridge, I examined the social implications of behavioral genetics research for public education in the United States. In particular, my work explored teacher perspectives on the role and relevance of genetics for education. Studying the implications of behavioral genetics and social science genomics is important because genetics can readily be used to place individuals into different and at times problematic categories: abled or disabled, rich or poor, White or Black. This is more important than ever in the context of education – an institution considered a pathway to social and economic mobility yet plagued by racial and socioeconomic disparities in education outcomes.

My goal as a scholar is to conduct interdisciplinary empirical research that aids in the socially and ethically responsible communication of genetics and genomics. This aim complements my prior and existing scholarship, including my work as a member of the steering committee for a three-year Hastings Center and Geisinger working group that is funded by the Robert Wood Johnson Foundation, Russell Sage Foundation, and JPB Foundation. This working group brings together diverse experts to explore the risks, benefits, and ethical responsibilities of social and behavioral genomics. In short, my work demonstrates a strong potential to contribute to understandings of how social and public policy, including education policy, might be conceived in the postgenomic era. I believe that more careful analyses can help policy makers, scientific researchers, and the wider public work towards identifying genuinely fruitful responses to problems of inequity, determinism, and discrimination.

Relevant publications that I would like to highlight include:

1. **Martschenko, D. O.,** & Smith, M. (2021). Genes do not operate in a vacuum, and neither should our research. *Nature Genetics*, *53*(3), 255–256.
2. **Martschenko D.** DNA Dreams': Teacher Perspectives on the Role and Relevance of Genetics for Education. Research in Education. 2019 August 21; 107(1):33-54.
3. **Martschenko D**, Trejo S, Domingue B. Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. AERA Open. 2019 February 19; 5(1):1-15.

### B. Positions and Honors

Positions and Employment

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| --- | --- |
| 2019 - 2020 | Research Analyst, Center for Radical Innovation for Social Change, University of Chicago, Chicago, IL |
| 2020- | Consultant, Stanford Research Ethics Consult Service, Stanford University, Stanford, CA |
| 2020- | BioFutures Fellow, Department of BioEngineering, Stanford University, Stanford, CA |
| 2020 - | Postdoctoral Fellow, Center for Biomedical Ethics, Stanford University, Stanford, CA |

Other Experience and Professional Memberships

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| --- | --- |
| 2015 - 2019 | Member, American Educational Research Association |
| 2016 - | Member, American Society for Bioethics and the Humanities |
| 2016 - | Member, Behavior Genetics Association |
| 2018 | Visiting Scholar, Hastings Center & Yale Interdisciplinary Center for Bioethics |
| 2019 - 2020 | Member, British Educational Research Association |
| 2020 - | Associate Editor, Research in Education |
| 2020 - | Member, American Society for Human Genetics |
| 2020 - | Facilitator, Responsible Conduct of Research (Med 255), Stanford University |
| 2020 - | Steering Committee Member, Wrestling with Social and Behavioral Genomics, The Hastings Center & Geisinger |

Honors

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| --- | --- |
| 2014 | Phi Beta Kappa, Stanford University, Stanford, CA |
| 2014 | Postgraduate Scholarship, National Collegiate Athletic Association |
| 2014 - 2015 | Horobin Academic Award, University of Cambridge, Cambridge, UK |
| 2015 | Santander MPhil Distinction Award, University of Cambridge, Cambridge, UK |
| 2015 - 2018 | Schultz Academic Bursary Award, University of Cambridge, Cambridge, UK |
| 2015-2018 | Cambridge Trust Scholarship, University of Cambridge, Cambridge, UK |
| 2017 | Bye-Fellowship Finalist, University of Cambridge, Cambridge, UK |
| 2020 – 2021 | Precision Medicine & Society Pilot Grant, Columbia University, New York, NY |

### C. Contribution to Science

1. **A major proportion of my work explores the social and ethical issues raised by social and behavioral genomics, with a special focus on public education**. I have conducted several studies and guest edited a special issue entitled “Education, Biosocial Sciences, and the Popular Imagination” in the SAGE journal Research in Education that examine the risks and benefits of the biosocial sciences within education. I have also facilitated conversation on this topic with an array of communities. Examples of this include my panel at the 2020 American Society for Bioethics and the Humanities (ASBH) annual meeting entitled “Polygenic Scores and Education – Threats and Possibilities” and my symposium at the 2018 American Educational Research Association (AERA) annual meeting entitled “Dystopian DNA? Public Education, Genetics, and the Popular Imagination.”
   1. **Martschenko, D.** (2020). Embodying biopolitically discriminate borders: Teachers’ spatializations of race. *Discourse: Studies in the Cultural Politics of Education*, *0*(0), 1–14.
   2. **Martschenko D.** “The train has left the station”: The arrival of the biosocial sciences in education. Research in Education. 2020 March 30; 107(1):3-9.
   3. **Martschenko D.** DNA Dreams': Teacher Perspectives on the Role and Relevance of Genetics for Education. Research in Education. 2019 August 21; 107(1):33-54.
   4. **Martschenko D**, Trejo S, Domingue B. Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. AERA Open. 2019 February 19; 5(1):1-15.
2. **One of my main contributions to the field of Ethical Legal Social Implications (ELSI) scholarship has been my development and practice of interdisciplinary collaborations such as adversarial collaboration**. I have published articles that employ adversarial collaboration with the intention to increase the accessibility and readability of social and behavioral genomics for multiple audiences. I have also spoken in podcasts and conferences on the benefits of such interdisciplinary partnerships, including as an invited speaker to the 2021 National Institutes of Mental Health annual retreat, the 2021 National Institutes of Health Bioethics Interest Group invited speaker series, and the 2018 Social Science Genetic Association Consortium’s (SSGAC) Polygenic Prediction and Its Application in the Social Sciences Conference. I am currently involved in several adversarial collaborations including building a public repository of explanatory documents in social and behavioral genomics that is hosted by the bioethics institute the Hastings Center. These explanatory documents are designed to explain the scope and limitations of genetic studies in social and behavioral genomics with the goal of preventing misuse and misinterpretation. Additionally, I am a member of the steering committee for a working group funded by the Robert Wood Johnson Foundation, Russell Sage Foundation, and JPB Foundation. This working group facilitates robust conversation among diverse experts on the risks, benefits, and ethical responsibilities pertaining to social and behavioral genomics. As a member of the steering committee, my primary responsibility is to build out a community sounding board to work in tandem with the working group. In the long term I hope to do two things. First, I want to identify and address institutional barriers that make interdisciplinary collaborations, including adversarial collaborations, difficult. Second, I want to assess the utility of adversarial collaborations, focusing specifically on the impacts of this methodological tool for research accessibility, interpretation, and application.
3. **Martschenko, D. O.,** & Smith, M. (2021). Genes do not operate in a vacuum, and neither should our research. *Nature Genetics*, *53*(3), 255–256.
   1. **Martschenko D**, Trejo S, Domingue B. Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. AERA Open. 2019 February 19; 5(1):1-15.
   2. Kweon, H., Burik, C. A. P., Linner, R. K., Vlaming, R. de, Okbay, A., **Martschenko, D.**, Harden, K. P., DiPrete, T. A., & Koellinger, P. D. (2020). Genetic Fortune: Winning or Losing Education, Income, and Health. In *Tinbergen Institute Discussion Papers* (No. 20-053/V; Tinbergen Institute Discussion Papers). Tinbergen Institute.

### D. Additional Information: Research Support and/or Scholastic Performance

**Ongoing Research Support**

As a Postdoctoral Research Fellow at the Stanford Center for Biomedical Ethics, I am supported by grant T32HG008953 (The Stanford Training Program in ELSI Research).