

# Stanford

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## Amy M Inkster

Postdoctoral Scholar, Epidemiology

### Bio

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#### BIO

Amy Inkster, PhD is a Postdoctoral Scholar in the Department of Epidemiology and Population Health at Stanford University. She conducts research on epigenetic alterations in pregnancy and early life to understand the molecular levers affecting healthy development. She primarily uses large 'omics datasets to study the effect of environmental exposures on pregnancy outcomes and maternal health.

Dr. Inkster received her PhD in Medical Genetics from the University of British Columbia (Vancouver, Canada), where her research focused on evaluating DNA methylation variation in prenatal life, primarily in the context of placental epigenetics, sex differences, prenatal exposures, and X-chromosome inactivation. She holds a BSc in Chemistry. As a cross-disciplinary researcher, her work and research interests lie at the intersection of molecular mechanisms and their impacts on human health and disease at the population level.

#### ACADEMIC APPOINTMENTS

- Member, Maternal & Child Health Research Institute (MCHRI)

#### PROFESSIONAL EDUCATION

- PhD, University of British Columbia , Medical Genetics (2024)
- BSc, University of Calgary , Chemistry (2016)

#### STANFORD ADVISORS

- Andres Cardenas, Postdoctoral Faculty Sponsor

#### LINKS

- LinkedIn: <https://www.linkedin.com/in/amymichelleinkster/>

### Publications

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#### PUBLICATIONS

- **Some lessons learned from genomic and epigenomic studies of the placenta.** *Placenta*  
Inkster, A. M., Illing, H. J., Robinson, W. P.  
2025
- **Breaking rules: the complex relationship between DNA methylation and X-chromosome inactivation in the human placenta.** *Biology of sex differences*  
Inkster, A. M., Matthews, A. M., Phung, T. N., Plaisier, S. B., Wilson, M. A., Brown, C. J., Robinson, W. P.  
2025; 16 (1): 18

- **DIFFERENTIAL METHYLATION IN THE PLACENTA ASSOCIATED WITH MATERNAL SOCIOECONOMIC STATUS: THE SPAH STUDY**  
Beraldo, E. O., Borders, A. E., Inkster, A. M., Ernst, L. M., Fisher, C., Keenan-Devlin, L. S., Boyano, I., Penaherrera, M. S., Miller, G. E., Robinson, W. P.  
W B SAUNDERS CO LTD.2024: E15-E16
- **SEX-INFLUENCED DNAME PROFILES OF ISOLATED HUMAN PLACENTAL CELL TYPES**  
Han, J., Inkster, A., Yuan, V., Robinson, W.  
W B SAUNDERS CO LTD.2024: E15
- **Breaking Rules: The Complex Relationship between DNA Methylation and X-Chromosome Inactivation in the Human Placenta.**  
Inkster, A. M., Matthews, A. M., Brown, C. J., Robinson, W. P.  
SPRINGER HEIDELBERG.2024: 74A
- **Sex Differences in Cell Composition and Epigenetic Age Acceleration Associated with Prenatal Maternal Stress in the Placenta.**  
Beraldo, E. O., Inkster, A. M., Vaillancourt, C., Penaherrera, M. S., Kildea, S., King, S., Robinson, W.  
SPRINGER HEIDELBERG.2024: 163A
- **Sex-dependent placental methylation quantitative trait loci provide insight into the prenatal origins of childhood onset traits and conditions** *ISCIENCE*  
Casazza, W., Inkster, A. M., Del Gobbo, G. F., Yuan, V., Delahaye, F., Marsit, C., Park, Y. P., Robinson, W. P., Mostafavi, S., Dennis, J. K.  
2024; 27 (2): 109047
- **A developmental framework for understanding the influence of sex and gender on health: Pediatric pain as an exemplar** *NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS*  
Boerner, K. E., Keogh, E., Inkster, A. M., Nahman-Averbuch, H., Oberlander, T. F.  
2024; 158: 105546
- **The application of epiphenotyping approaches to DNA methylation array studies of the human placenta** *EPIGENETICS & CHROMATIN*  
Khan, A., Inkster, A. M., Penaherrera, M. S., King, S., Kildea, S., Oberlander, T. F., Olson, D. M., Vaillancourt, C., Brain, U., Beraldo, E. O., Beristain, A. G., Clifton, V. L., Del Gobbo, et al  
2023; 16 (1): 37
- **eoPred: predicting the placental phenotype of early-onset preeclampsia using public DNA methylation data** *FRONTIERS IN GENETICS*  
Fernandez-Boyano, I., Inkster, A. M., Yuan, V., Robinson, W. P.  
2023; 14: 1248088
- **The application of epiphenotyping approaches to DNA methylation array studies of the human placenta.** *Research square*  
Khan, A., Inkster, A. M., Penaherrera, M. S., King, S., Kildea, S., Oberlander, T. F., Olson, D. M., Vaillancourt, C., Brain, U., Beraldo, E. O., Beristain, A. G., Clifton, V. L., Del Gobbo, et al  
2023
- **Who's afraid of the X? Incorporating the X and Y chromosomes into the analysis of DNA methylation array data** *EPIGENETICS & CHROMATIN*  
Inkster, A. M., Wong, M. T., Matthews, A. M., Brown, C. J., Robinson, W. P.  
2023; 16 (1): 1
- **Profiling placental DNA methylation associated with maternal SSRI treatment during pregnancy** *SCIENTIFIC REPORTS*  
Inkster, A. M., Konwar, C., Penaherrera, M. S., Brain, U., Khan, A., Price, E., Schuetz, J. M., Portales-Casamar, E., Burt, A., Marsit, C. J., Vaillancourt, C., Oberlander, T. F., Robinson, et al  
2022; 12 (1): 22576
- **Dysregulated BMP2 in the Placenta May Contribute to Early-Onset Preeclampsia by Regulating Human Trophoblast Expression of Extracellular Matrix and Adhesion Molecules** *FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY*  
Yi, Y., Zhu, H., Klausen, C., Chang, H., Inkster, A. M., Terry, J., Leung, P. K.  
2021; 9: 768669
- **Risk-focused differences in molecular processes implicated in SARS-CoV-2 infection: corollaries in DNA methylation and gene expression** *EPIGENETICS & CHROMATIN*  
Konwar, C., Asimwe, R., Inkster, A. M., Merrill, S. M., Negri, G. L., Aristizabal, M. J., Rider, C. F., Maclsaac, J. L., Carlsten, C., Kobor, M. S.  
2021; 14 (1): 54

- **Are sex differences in cognitive impairment reflected in epigenetic age acceleration metrics?** *NEUROBIOLOGY OF AGING*  
Inkster, A. M., Duarte-Guterman, P., Albert, A. Y., Barha, C. K., Galea, L. M., Robinson, W. P., Alzheimer's Dis Neuroimaging Initi  
2022; 109: 192-194
- **Autosomal sex-associated co-methylated regions predict biological sex from DNA methylation** *NUCLEIC ACIDS RESEARCH*  
Gatev, E., Inkster, A. M., Negri, G., Konwar, C., Lussier, A. A., Skakkebaek, A., Sokolowski, M. B., Gravholt, C. H., Dunn, E. C., Kobor, M. S., Aristizabal, M. J.  
2021; 49 (16): 9097-9116
- **Sex Differences Are Here to Stay: Relevance to Prenatal Care** *JOURNAL OF CLINICAL MEDICINE*  
Inkster, A. M., Fernandez-Boyano, I., Robinson, W. P.  
2021; 10 (13)
- **A cross-cohort analysis of autosomal DNA methylation sex differences in the term placenta** *BIOLOGY OF SEX DIFFERENCES*  
Inkster, A. M., Yuan, V., Konwar, C., Matthews, A. M., Brown, C. J., Robinson, W. P.  
2021; 12 (1): 38
- **Genetic Sex Underlies Patterns of DNA Methylation in the Human Placenta.**  
Inkster, A. M., Yuan, V., Konwar, C., Matthews, A. M., Brown, C. J., Robinson, W. P.  
SPRINGER HEIDELBERG.2020: 169A-170A
- **Transcriptional Analysis Of Bone Morphogenetic Protein 2 (BMP2) Signaling In Human Placental Trophoblast Development.**  
Yi, Y., Zhu, H., Klausen, C., Chang, H., Inkster, A. M., Robinson, W. P., Leung, P. K.  
SPRINGER HEIDELBERG.2020: 260A
- **Inflammation in Alzheimer's Disease: Do Sex and *APOE* Matter?** *JOURNAL OF ALZHEIMERS DISEASE*  
Duarte-Guterman, P., Albert, A. Y., Inkster, A. M., Barha, C. K., Galea, L. M., Alzheimers Dis Neuroimaging Initia  
2020; 78 (2): 627-641
- **Altered levels of placental miR-338-3p and miR-518b are associated with acute chorioamnionitis and *IL6* genotype** *PLACENTA*  
Konwar, C., Manokhina, I., Terry, J., Inkster, A. M., Robinson, W. P.  
2019; 82: 42-45
- **A Challenging Prenatal QF-PCR Rapid Aneuploidy Test Result Caused by a Maternally Inherited Triplication within Chromosome Xq26.2** *CYTOGENETIC AND GENOME RESEARCH*  
Inkster, A., Thomas, M., Gamache, N. S., Chan, M., Stenroos, P., Chernos, J. E., Argiropoulos, B.  
2018; 156 (1): 5-8