BIOGRAPHICAL SKETCH

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NAME: **ARANYAK GOSWAMI**

eRA COMMONS USER NAME (credential, e.g., agency login): GOSWAMIA

POSITION TITLE: Tenure Track Assistant Professor in Bioinformatics and Computational Biology, Department of Animal Sciences, University of Arkansas

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.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Calcutta	MS	05/2007	Genetics Bioinformatics, Computational Biology, and Genetics
Indian Institute of Chemical Biology	PhD	07/2018	
Bose Institute, Kolkata	National Post-Doctoral Fellow	11/2019	Bioinformatics, Computational Biology, and Genetics
Yale University	Post-Doctoral Associate	04/2022	Bioinformatics, Computational Biology, and Genetics
Stanford University	Post-Doctoral Scholar	03/2024	Bioinformatics, Computational Biology, and Genetics

A. Personal Statement

I am an Assistant Professor in the Department of Animal Sciences at the University of Arkansas, specializing in computational biology and bioinformatics, with a focus on integrating host genetics and microbiome data. My Ph.D. in Bioinformatics and Microbial Genomics, along with postdoctoral research at Yale and Bose Institute, has equipped me with expertise in GWAS, microbial genetics, and advanced computational techniques such as Variational Autoencoders (VAEs) and machine learning models. Currently, my research involves analyzing large genomic datasets to uncover genetic and microbial interactions that contribute to psychiatric disorders. My experience with advanced computational methods, causal inference techniques, and high-dimensional data analysis provides a solid foundation for identifying novel biomarkers and therapeutic targets for neuropsychiatric conditions.

B. Positions, Scientific Appointments, and Honors

Positions and Employment

- 2024–present: Tenure Track Assistant Professor, Bioinformatics and Computational Biology, Department of Animal Sciences, University of Arkansas

Honors:

- 2005: UGC Junior Research Fellowship, Govt of India
- 2007: Senior Research Fellowship, Govt of India
- 2018: National Postdoctoral Fellowship, Govt of India

Scientific Memberships:

- 2019–2020: Psychiatric Genomics Consortium
- 2022–2024: American Society of Gene and Cell Therapy
- 2024–2025: American Society for Microbiology

C. Contributions to Science

1) Saha, S. K., Goswami, A., & Dutta, C. (2014). Association of purine asymmetry, strand-biased gene distribution and PolC within Firmicutes and beyond a new appraisal. BMC Genomics, 15(1), 1-26. **Impact Factor- 4.558**

2) Wendt, F. R., Pathak, G. A., Tylee, D. S., Goswami, A., & Polimanti, R. (2020). Heterogeneity and Polygenicity in Psychiatric Disorders: A Genome-Wide Perspective. Chronic Stress, 4, 2470547020924844. **Impact Factor- 4.18**

3) Wendt, F. R., Pathak, G. A., Levey, D. F., Nuñez, Y. Z., Overstreet, C., Tyrrell, C., ... & Polimanti, R. (2021). Sex-stratified gene-by-environment genome-wide interaction study of trauma, posttraumatic stress, and suicidality. Neurobiology of stress, 14, 100309. **Impact Factor- 7.142**

4) Goswami, A., Chowdhury, A. R., Sarkar, M., Saha, S. K., Paul, S., & Dutta, C. (2015). Strand-biased gene distribution, purine asymmetry and environmental factors influence protein evolution in Bacillus. FEBS letters, 589(5), 629-638. **Impact Factor- 3.864**

5) Pathak, G. A., Wendt, F. R., De Lillo, A., Nunez, Y. Z., Goswami, A., De Angelis, F., ... & Polimanti, R. (2021). Epigenomic Profiles of African American Transthyretin Val122Ile Carriers Reveals Putatively Dysregulated Amyloid Mechanisms. Circulation: Genomic and Precision Medicine, 14(1), e003011. **Impact Factor-7.465**

6) Wendt, F. R., Pathak, G. A., Levey, D. F., Nuñez, Y. Z., Overstreet, C., Tyrrell, C., ... & Polimanti, R. (2020). Trauma and posttraumatic stress interact with sex-specific risk loci for suicidality and converge on brain extracellular matrix biology and synaptic plasticity. medRxiv.

7) Goswami, A., Wendt, F. R., Pathak, G. A., Tylee, D. S., De Angelis, F., De Lillo, A., & Polimanti, R. (2021). Role of microbes in the pathogenesis of neuropsychiatric disorders. Frontiers in Neuroendocrinology, 62, 100917. **Impact Factor-8.333**

8) De Angelis, F., Wendt, F. R., Pathak, G. A., Tylee, D. S., Goswami, A., Gelernter, J., & Polimanti, R. (2021). Drinking and smoking polygenic risk is associated with childhood and early-adulthood psychiatric and behavioral traits independently of substance use and psychiatric genetic risk. Translational psychiatry, 11(1), 1-12. **Impact Factor- 7.989**

9) Pathak, G. A., Wendt, F. R., Goswami, A., Koller, D., De Angelis, F., Polimanti, R., & COVID-19 Host Genetics Initiative. (2021). ACE2 Netlas: In silico Functional Characterization and Drug-Gene Interactions of ACE2 Gene Network to Understand Its Potential Involvement in COVID-19 Susceptibility. Frontiers in genetics, 1523. **Impact Factor- 4.772**

10) COVID-19 COMPLICATIONS AND SUGGESTED MEASURES: MODERN TOOLS FOR INTERVENING PANDEMIC JJ Yusuf, K. Z., Ansar, W., Goswami, A., Mandal, S., Tahrim, H., Poddar, S ...
Journal of Health and Translational Medicine, 25 (1), 145-153

11) Pekrun, K., Stephens, C. J., Gonzalez-Sandoval, A., Goswami, A., Zhang, F., Tarantal, A. F., ... & Kay, M. A. (2024). Correlation of antigen expression with epigenetic modifications after rAAV delivery of a hyperactive human Factor IX variant in mice and rhesus macaques. Molecular Therapy. **Impact Factor- 12.4**

12) Puzzo, F., Crossley, M. P., Goswami, A., Zhang, F., Pekrun, K., Garzon, J. L., ... & Kay, M. A. (2024). AAV-mediated genome editing is influenced by the formation of R-loops. Molecular Therapy)
Impact Factor- 12.4

[* I have been involved in all relevant analysis, writing, and designing of figures for all my First Author papers and I have been involved in the conception, writing, and part of analytic execution in my second author papers.]