Survival of the littlest: improving preterm outcomes through metabolomics and microsampling
Thangavelu, M.U.

Appendix

Curriculum Vitae

Manchu Umarani Thangavelu was born in Vellore, India, on 12 May 1993. She obtained a Bachelor of Engineering in Electrical and Electronics Engineering from M.S. Ramaiah Institute of Technology, Bangalore, India, in 2015. Her undergraduate thesis focused on the design and implementation of ultrasound sensor-based safety systems in automobiles for detecting road surface anomalies. Following her graduation, she worked for two years as a Systems Engineer in Infosys Limited, Bangalore, where she acquired experience in programming and enterprise messaging systems, supporting the operations of the Global Messaging Hub within the banking domain. Driven by a growing interest in the intersection of engineering and healthcare, she pursued a Master of Science in Biomedical Engineering at KU Leuven, Leuven, Belgium, graduating in 2019. During her studies, she completed an internship at Materialise NV, Leuven, where she contributed to personalized surgical planning by designing and 3D printing patient-specific spacer guides for radial osteotomy using proprietary software. Her Master's thesis focused on the mechanical characterization of surgical meshes, integrating experimental testing with finite-element simulations to improve implant performance. In 2020, she joined the Metabolomics and Analytics Centre at Leiden University as a PhD candidate under the supervision of Prof. dr. Thomas Hankemeier. Her doctoral research has been dedicated to applying targeted metabolomics and advanced microsampling techniques to improve clinical outcomes in preterm neonates. She has presented her work at several conferences, including the 2024 Metabolomics Conference in Osaka, Japan, and the Nordic Metabolomics Conference in Turku, Finland, for which she received a competitive travel grant. Her work has been published in reputable peer-reviewed journals, such as Analytical Science Advances, the Journal of Proteome Research, and Scientific Reports. In addition to traditional scientific communication, she engaged in creative science outreach, and was the Runner-Up in the EMN MetaboArt competition 2024, organized by the Early Career Members Network of the Metabolomics Society. Since September 2025, she has been working as a postdoctoral researcher at the National Centre for Register-based Research, Department of Public Health, Aarhus University, Denmark. Her current research examines the interplay between biology and environment to predict eating disorder risk and course through a comprehensive analysis of neonatal metabolic, immune, and neurotrophic biomarkers, epidemiological factors from Danish registers, and genetics.

List of Publications

1. *__Thangavelu, M. U.__, *Ronde, E., Lamont, L., Elfrink, H., Harms, A., de Rijke, Y.B., Franx, A., de Meij, T.G.J., A. Kindt, A., Irwin K.M. Reiss, & Schoenmakers, S. & Hankemeier, T. (2025, December 04). Maternal urinary metabolic signatures preceding spontaneous preterm birth: A pilot study. Scientific Reports. *https://doi.org/10.1038/s41598-025-28436-1.*

2. __Thangavelu, M. U.__, Kindt, A., Hassan, S., Geerlings, J.J.B., Nijgh-van Kooij, C., Reiss, I. K. M., Wouters, B., Taal, H.R., & Hankemeier, T. (2025, April 30). Survival of the littlest: Navigating sepsis diagnosis beyond inflammation in preterm neonates. Journal of Proteome Research. *https://doi.org/10.1021/acs.jproteome.4c01072*

3. __Thangavelu, M. U.__, Wouters, B., Kindt, A., Reiss, I. K. M., & Hankemeier, T. (2023, May 18). Blood microsampling technologies: Innovations and applications in 2022. Analytical Science Advances. Wiley. *http://doi.org/10.1002/ansa.202300011*

4. __Thangavelu, M. U.__, Kindt, A., Wouters, B., Lamont, L., Elfrink, H., Harms, A., & Hankemeier, T. Volumetric absorptive microsampling for profiling of signaling lipids: A comparative analysis with whole blood and dried blood spots. Analytical and Bioanalytical Chemistry. *Manuscript Accepted*

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Appendix