

LIST OF PEER REVIEWED PUBLICATIONS ([PUBMED](#) & [GOOGLE SCHOLAR](#))

The international peer-reviewed publications in the scientific journals can also be retrieve by clicking on the 'PubMed' and / or 'Google Scholar' link above.

Original research articles in international peer-reviewed journals

1. Lamichhane, S., **Sen, P.**, Dickens, AM., Kråkström, Jorma, M., Johanna Lempainen, J., Hyoty, H., Lahesmaa, R., Veijola, K., Toppari, J., Hyötyläinen, T., Knip, M., Orešič, M. (2023). Circulating metabolic signatures of rapid and slow progression to type 1 diabetes in islet autoantibody-positive children. *Frontiers in Endocrinology*, 14, 1211015.
2. Lamichhane, S.*, **Sen, P.***, Dickens, AM., Alves, MA., Härkönen, T., Honkanen, J., Vatanen, T., Xavier, RJ., Hyötyläinen, T., Knip, M., Orešič, M. (2022). Dysregulation of secondary bile acid metabolism precedes islet autoimmunity and type 1 diabetes. *Cell Rep Med*, 100762.
3. **Sen, P.**, Govaere, O., Sinioja, T., McGlinchey, A., Geng D., Ratzu, V., Bugianesi, E., Schattenberg, JM., Vidal-Puig, A., Allison, M., Cockell, S., Daly A.K., Hyötyläinen, T., Anstee, Q.M., Orešič, M. (2022). Quantitative modelling of human liver reveals dysregulation of glycosphingolipid pathways in nonalcoholic fatty liver disease. *iScience*, 104949.
4. Ribeiro, H.C., **Sen, P.**, P, Dickens, A., Cruz, E.C.S., Oresic, M., Sussulini, A. (2022). Metabolomic and proteomic profiling in bipolar disorder patients revealed potential molecular signatures related to hemostasis. *Metabolomics* 18 (8), 1-13.
5. Johnson, K., Leary J.P., Govaere, O., Barter J.M., Charlton, H.S., Cockell, J.S., Tiniakos, D., *et al.* (2021). Increased serum miR-193a-5p during non-alcoholic fatty liver disease progression: diagnostic and mechanistic relevance. *JHEP Reports*, 100409.
6. **Sen, P.**, Andrabi, S.B.A., Buchacher, T., Khan, M.M., Kalim, U.U., Lindeman, T.M., Alves, M.A., Hinkkanen, V., Kemppainen, E., Dickens, A.M., *et al.* (2021). Quantitative genome-scale metabolic modeling of human CD4⁺ T cell differentiation reveals subset-specific regulation of glycosphingolipid pathways. *Cell Rep* 37, 109973.
7. **Sen, P.**, Qadri, S., Luukkonen, P.K., Ragnarsdottir, O., McGlinchey, A., Jantti, S., Juuti, A., Arola, J., Schlezinger, J.J., Webster, T.F., *et al.* (2021). Exposure to environmental contaminants is associated with altered hepatic lipid metabolism in non-alcoholic fatty liver disease. *J Hepatol* (doi: 10.1016/j.jhep.2021.09.039).
8. Petersen, A.O., Julienne, H., Hyotylainen, T., **Sen, P.**, Fan, Y., Pedersen, H.K., Jantti, S., Hansen, T.H., Nielsen, T., Jorgensen, T., *et al.* (2021). Conjugated C-6 hydroxylated bile acids in serum relate to human metabolic health and gut Clostridia species. *Sci Rep* 11, 13252.

9. Dickens, A.M.*, **Sen, P.***, Kempton, M.J., Barrantes-Vidal, N., Iyegbe, C., Nordentoft, M., Pollak, T., Riecher-Rossler, A., Ruhrmann, S., Sachs, G., *et al.* (2021). Dysregulated Lipid Metabolism Precedes Onset of Psychosis. *Biol Psychiatry* 89, 288-297.
10. Lamichhane, S., Dickens, A.M., **Sen, P.**, Laurikainen, H., Borgan, F., Suvisaari, J., Hyötyläinen, T., Howes, O., Hietala, J., and Orešič, M. (2021). Association Between Circulating Lipids and Future Weight Gain in Individuals With an At-Risk Mental State and in First-Episode Psychosis. *Schizophr Bull.*
11. Sinisalu, L., **Sen, P.**, Salihović, S., Virtanen, S.M., Hyöty, H., Ilonen, J., Toppari, J., Veijola, R., Orešič, M., Knip, M., *et al.* (2020). Early-life exposure to perfluorinated alkyl substances modulates lipid metabolism in progression to celiac disease. *Environ Res* 188, 109864.
12. **Sen, P.**, Dickens, A.M., López-Bascón, M.A., Lindeman, T., Kemppainen, E., Lamichhane, S., Rönkkö, T., Ilonen, J., Toppari, J., Veijola, R., Hyöty, H., Hyötyläinen, T., Knip, M., Orešič, M. (2020). Metabolic alterations in immune cells associate with progression to type 1 diabetes. *Diabetologia* 63, 1017-1031.
13. McGlinchey, A., Sinioja, T., Lamichhane, S., **Sen, P.**, Bodin, J., Siljander, H., Dickens, A.M., Geng, D., Carlsson, C., Duberg, D., *et al.* (2020). Prenatal exposure to perfluoroalkyl substances modulates neonatal serum phospholipids, increasing risk of type 1 diabetes. *Environ Int* 143, 105935.
14. Khoomrung, S., Nookaew, I., **Sen, P.**, Olafsdottir, T.A., Persson, J., Moritz, T., Andersen, P., Harandi, A.M., and Nielsen, J. (2020). Metabolic Profiling and Compound-Class Identification Reveal Alterations in Serum Triglyceride Levels in Mice Immunized with Human Vaccine Adjuvant Alum. *J Proteome Res* 19, 269-278.
15. **Sen, P.**, Carlsson, C., Virtanen, S.M., Simell, S., Hyöty, H., Ilonen, J., Toppari, J., Veijola, R., Hyötyläinen, T., Knip, M., *et al.* (2019). Persistent Alterations in Plasma Lipid Profiles Before Introduction of Gluten in the Diet Associated With Progression to Celiac Disease. *Clin Transl Gastroenterol* 10, 1-10.
16. Vincent, A., Savolainen, O.I., **Sen, P.**, Carlsson, N.G., Almgren, A., Lindqvist, H., Lind, M.V., Undeland, I., Sandberg, A.S., and Ross, A.B. (2017). Herring and chicken/pork meals lead to differences in plasma levels of TCA intermediates and arginine metabolites in overweight and obese men and women. *Mol Nutr Food Res* 61.
17. Thankaswamy-Kosalai, S.*, **Sen, P.***, and Nookaew, I. (2017). Evaluation and assessment of read-mapping by multiple next-generation sequencing aligners based on genome-wide characteristics. *Genomics* 109, 186-191.
18. **Sen, P.**, Mardinogulu, A., and Nielsen, J. (2017). Selection of complementary foods based on optimal nutritional values. *Sci Rep* 7, 5413.

19. Olafsdottir, T.A., Lindqvist, M., Nookaew, I., Andersen, P., Maertzdorf, J., Persson, J., Christensen, D., Zhang, Y., Anderson, J., Khoomrung, S., **Sen, P.**, *et al.* (2016). Comparative Systems Analyses Reveal Molecular Signatures of Clinically tested Vaccine Adjuvants. *Sci Rep* 6, 39097.
20. Shoaie, S., Ghaffari, P., Kovatcheva-Datchary, P., Mardinoglu, A., **Sen, P.**, Pujos-Guillot, E., de Wouters, T., Juste, C., Rizkalla, S., Chilloux, J., *et al.* (2015). Quantifying Diet-Induced Metabolic Changes of the Human Gut Microbiome. *Cell Metab* 22, 320-331.
21. **Sen, P.**, Vial, H.J., and Radulescu, O. (2013). Kinetic modelling of phospholipid synthesis in *Plasmodium knowlesi* unravels crucial steps and relative importance of multiple pathways. *BMC Syst Biol* 7, 123.

Review articles in international peer-reviewed scientific journals

22. **Sen, P.**, and Orešič, M. Integrating Omics Data in Genome-Scale Metabolic Modeling: A Methodological Perspective for Precision Medicine. *Metabolites* (MDPI), 2023; 13, 7, 855.
23. Krefting, J., **Sen, P.**, David-Rus, D., Güldener, U., Hawe, J.S., Scheidt M.V., 2, Cassese, S., and Schunkert, H (2023). Use of big data from health insurance for assessment of cardiovascular outcomes *Frontiers in Artificial Intelligence*, 2023;6.
24. Mathema, V., **Sen, P.**, Lamichhane, S., Khoomrung, S., Orešič, M. (2023). Deep learning facilitates multi-data type analysis and predictive biomarker discovery in cancer precision medicine. *Computational and Structural Biotechnology Journal* (CSBJ) 21, 1372-1382.
25. **Sen, P.**, Lamichhane, S., Mathema, V.B., McGlinchey, A., Dickens, A.M., Khoomrung, S., and Oresic, M. (2021). Deep learning meets metabolomics: a methodological perspective. *Brief Bioinform* 22, 1531-1542.
26. Lamichhane, S., **Sen, P.**, Alves, M.A., Ribeiro, H.C., Raunioniemi, P., Hyötylainen, T., and Oresic, M. (2021). Linking Gut Microbiome and Lipid Metabolism: Moving beyond Associations. *Metabolites* 11.
27. Alves, M.A., Lamichhane, S., Dickens, A., McGlinchey, A., Ribeiro, H.C., **Sen, P.**, Wei, F., Hyötylainen, T., and Oresic, M. (2021). Systems biology approaches to study lipidomes in health and disease. *Biochim Biophys Acta Mol Cell Biol Lipids* 1866, 158857.
28. **Sen, P.**, and Orešič, M. (2019). Metabolic Modelling of Human Gut Microbiota on a Genome Scale: An Overview. *Metabolites* 9.
29. Lamichhane, S., **Sen, P.**, Dickens, A.M., Oresic, M., and Bertram, H.C. (2018). Gut metabolome meets microbiome: A methodological perspective to understand the relationship between host and microbe. *Methods* 149, 3-12.
30. **Sen, P.**, Kemppainen, E., and Orešič, M. (2017). Perspectives on Systems Modelling of Human Peripheral Blood Mononuclear Cells. *Front Mol Biosci* 4, 96.

Manuscripts available as preprints and under peer-review in scientific journals

31. Aatsinki, A.-K., Lamichhane, S. Isokääntä, H., **Sen, P.**, Kråkström, M., Alves, M. A., Keskitalo, A., Munukka, E., Karlsson, H., Perasto, L., Lukkarinen, M., Oresic, M., Kailanto, H.-M.; Karlsson, L., Lahti, L., Dickens, A. M. Dynamics of Gut Metabolome and Microbiome Maturation during Early Life. medRxiv 2023, 2023.05.29.23290441
32. Lamichhane, S. *, **Sen, P. ***, Dickens, A.M., Amaral Alves, M., Karkonen, T., Honkanen, J., Vatanen, T., Xavier, R.J., Hyötyläinen, T., Knip, M., *et al.* (2021). Dynamics of gut microbiome - mediated bile acid metabolism in progression to islet autoimmunity. medRxiv, 2021.2008.2020.21262371.
33. **Sen, P.**, Govaere, O., Sinioja, T., McGlinchey, A., Geng, D., Ratziu, V., Bugianesi, E., Schattenberg, J.M., Vidal-Puig, A., Allison, M., *et al.* (2021). Quantitative genome-scale analysis of human liver reveals dysregulation of glycosphingolipid pathways in progressive nonalcoholic fatty liver disease. medRxiv, 2021.2002.2009.21251354.

Books and chapters

34. **Sen, P.**, Lamichhane, S., Dickens, A., and Oresic, M. (2019). The Role of Omic Technologies in the Study of the Human Gut Microbiome. Reference Module in Food Science.
35. Lamichhane, S., **Sen, P.**, Dickens, A.M., Hyötyläinen, T., and Orešič, M. (2018). An Overview of Metabolomics Data Analysis: Current Tools and Future Perspectives. Comprehensive analytical chemistry 82, 387-413.
36. **Sen, P.**, Vial, H.J., and Radulescu, O. (2016). Mathematical modelling and omic data integration to understand dynamic adaptation of Apicomplexan parasites and identify pharmaceutical targets. Comprehensive Analysis of Parasite Biology: From Metabolism to Drug Discovery 7, 457.

Editorials in peer-reviewed scientific journals

37. **Sen, P.**, Hyötyläinen, T., and Oresic, M. (2021). 1-deoxyceramides - key players in lipotoxicity and progression to type 2 diabetes? Acta Physiol (Oxf), e13635.

PhD Thesis

38. **Sen, P.** (2013). Integrated modelling of lipid metabolism in Plasmodium, the causative parasite of malaria (Université Montpellier II-Sciences et Techniques du Languedoc) [[weblink](#)].

**Signifies equal contributions*