

Topics for PhD programme admission 2026-2027 Ph.D.

Supervisor: Prof. Dr. Habil. Mira Florea

Topic 1:

1. Prevalence and characteristics of metabolic dysfunction-associated fatty liver disease (MASLD) in obese and non-obese individuals.
2. MASLD as a multisystemic disease: hepatic, cardiovascular, renal.
3. Hepatic complications of MASLD.
4. Extrahepatic complications of MASLD.
5. Cancers associated with MASLD.

Bibliography:

1. Metabolic Dysfunction-Associated Steatotic Liver Disease- Prevalence, research insights and future directions. Editors: Nahum Mendez-Sanchez, Xingshun Qi. Springer Nature Singapore Pte Ltd. 2024. eBook ISBN 978-981-97-9519-2.
2. Essentials of Non-Alcoholic Fatty Liver Disease. Complications and Extrahepatic Manifestations. Editors: Anca Trifan, Carol Stanciu, Cristina Muzica. Springer Nature Switzerland AG 2023. <https://doi.org/10.1007/978-3-031-33548-8>.
3. NAFLD in lean individuals. Donghee Kim and Vincent Wai-Sun Wong. In: Naim Alkhouri, Stephen A. Harrison. Need-to-Know NAFLD. The Complete Guide to Nonalcoholic Fatty Liver Disease, CRC Press, 2023. ISBN 9781032479484. <https://doi.org/10.1201/9781003386698>.
4. MASLD/MASH. Andreas Geier, Elke Roeb. Chapter 9 In: Hepatology. A clinical textbook. 11th edition 2024-2025. Edited by Heiner Wedemeyer, Stefan Mauss, Thomas Berg, Verena Keitel, Jürgen Rockstroh, and Christoph Sarrazin. <https://www.hepatologytextbook.com>.
5. MASLD as a Multisystemic Disease. Chantal Jacqueline Córdova-Gallardo, Andres Manuel Vargas-Beltran. In: Nahum Mendez-Sanchez, Xingshun Qi. Metabolic Dysfunction-Associated Steatotic Liver Disease- Prevalence, research insights and future directions. Springer Nature Singapore Pte Ltd. 2024. eBook ISBN 978-981-97-9519-2.
6. MASLD and Hepatic/Extrahepatic Cancers: Understanding the Complex Relationship. Jan Best, Bernd Schnabl, Ali Canbay. In: Nahum Mendez-Sanchez, Xingshun Qi. Metabolic Dysfunction-Associated Steatotic Liver Disease- Prevalence, research insights and future directions. Springer Nature Singapore Pte Ltd. 2024. eBook ISBN 978-981-97-9519-2.
7. Steatotic Liver Disease. In: Li, H., Zhang, X. (eds) Practical Liver Pathology. Practical Anatomic Pathology. Toro, P., Allende, D.S. 2025. Springer, Cham. https://doi.org/10.1007/978-3-031-97506-6_13.
8. Effects of Lifestyle Interventions on Metabolic Dysfunction-Associated Steatotic Liver Disease. Sharma, A., Barb, D. In: Mechanick, J.I., Kushner, R.F. (eds) Lifestyle Medicine. Springer, Cham. 2025. https://doi.org/10.1007/978-3-031-82888-1_10.

Topic 2:

1. Multimodal Characterization of Structural and Functional Changes Induced by GLP-1 Receptor Agonist Therapy in Individuals with Obesity Using Multi-omics, Gut Microbiome Profiling, and Functional Magnetic Resonance Imaging: A Cross-sectional and Longitudinal Study

Bibliography:

1. Maretty L, Gill D, Simonsen L, Soh K, Zagkos L, Galanakis M, Sibbesen J, Iglesias MT, Secher A, Valkenborg D, Purnell JQ, Knudsen LB, Tahrani AA, Geybels M. Proteomic changes upon treatment with semaglutide in individuals with obesity. *Nat Med*. 2025 Jan;31(1):267-277. doi: 10.1038/s41591-024-03355-2.
2. Xie Y, Choi T, Al-Aly Z. Mapping the effectiveness and risks of GLP-1 receptor agonists. *Nat Med*. 2025 Mar;31(3):951-962. doi: 10.1038/s41591-024-03412-w. Epub 2025 Jan 20. Erratum in: *Nat Med*. 2025 Mar;31(3):1038. doi: 10.1038/s41591-025-03542-9.
3. Chakaroun RM, Pradhan M, Björnson E, Arvidsson D, Fridolfsson J, Gummesson A, Schoeler M, Mitteregger M, Smith GJ, Larsson I, Börjesson M, Blüher M, Uhlén M, Stumvoll M, Bergström G, Tremaroli V, Bäckhed F. Multi-omic definition of metabolic obesity through adipose tissue-microbiome interactions. *Nat Med*. 2026 Jan;32(1):113-125. doi: 10.1038/s41591-025-04009-7.
4. Rosen CJ, Ingelfinger JR. GLP-1 Receptor Agonists. *N Engl J Med*. 2026 Apr 2;394(13):1313-1324. doi: 10.1056/NEJMra2500106.