

ESP Advanced Training Center for Pancreatobiliary Pathology

- **Name of the center and address:**

Institute of Pathology

University Hospital of Duesseldorf

Moorenstrasse 5, 40225, Duesseldorf, Germany

- **Chair of the Center:**

Prof. Dr. Irene Esposito

- **Head of the training programme:**

Prof. Dr. Irene Esposito

- **Trainers**

Prof. Dr. Irene Esposito

Dr. Aslihan Yavas

- **Details about specific areas in which training can be offered:**

Pancreatobiliary pathology

Pancreatobiliary pathology is one of the most challenging areas of diagnostic pathology. Due to the limited number of high-volume centers performing pancreatobiliary surgery, the complex anatomy of the resection specimens and the variety of neoplastic and non-neoplastic diseases involving these organs, pancreatobiliary pathology requires a highly experienced and dedicated staff. The University Hospital of Duesseldorf is one of the largest medical centers of Nordrhein-Westfalia, the most populated region of Germany and is member of the Center for Integrative Oncology Aachen- Bonn- Cologne- Duesseldorf (CIO-ABCD; <https://krebszentrum-cio.de/>). The Institute of Pathology at the University Hospital of Duesseldorf provides histopathologic, cytologic and molecular-pathological diagnostics and is one of the leading departments in Germany for the diagnostic of pancreatic and biliary neoplasia, being involved in clinical studies, in the development of interdisciplinary guidelines for diagnostic and therapy, and in educational activities in this field. In addition, the University Hospital of Düsseldorf is member of the German Network for Personalized Medicine and utilizes precision medicine with personalized therapy options and up-to-date molecular pathology by analyzing

molecular therapy targets in different tumor entities by next generation sequencing (NGS)-based methods.

Training program:

- Participation in processing/reporting of daily routine cases (grossing, histopathology)
- Participation in reporting of second-opinion cases
- Participation in immunohistochemical and molecular analyses
- Microscopy of case collection (n>200) of pancreatic and biliary pathology cases under guidance with particular focus on preinvasive lesions
- Optional: Pancreatobiliary cytopathology training
- Participation in morphology-based research project on pancreatobiliary diseases
- Research in progress meeting and journal Club (1h weekly)
- Participation in regular interdisciplinary meetings (2 h weekly)
- Molecular tumor board (1 h weekly)

- **Number of positions offered for each year:**

The institution offers 1 trainee position per year for a duration of up to 3 months.

- **Specific periods of the year when the visit may be realized:**

The training can start at any time during the year, except from mid-December to mid-January and from July to September.

- **Other conditions:**

The institution will assist the trainee in finding an accommodation for a reasonable price, provide a letter of invitation and support in getting necessary visa, insurance or other documents if required.

After completion of the training the trainee will receive a detailed certificate describing the work.

Training will not be charged.

- **Contact address for requesting details:**

Dr. Aslihan Yavas

Institute of Pathology

University Hospital Duesseldorf

Moorenstrasse 5, 40225, Duesseldorf, Germany

Tel: +49 211 81 18341

Email: aslihan.yavas@med.uni-duesseldorf.de

Prof. Irene Esposito - Publication list of the last 3 years

1. Vanoli, Alessandro et al. "Neuroendocrine Tumors of the Gallbladder: A Multicenter Case Series and Systematic Literature Review Indicating Predominantly Non-Aggressive Tumor Behavior and a Common Association with Cholesterol Polyps and Cholesterosis." *Endocrine pathology* vol. 37,1 26. 11 Jun. 2026, doi:10.1007/s12022-026-09921-3
2. Madriles, Francesc et al. "GATA4 loss promotes mutant Kras -driven pancreatic ductal adenocarcinoma in the absence of canonical precursor lesions." *bioRxiv : the preprint server for biology* 2026.05.22.724502. 26 May. 2026, doi:10.64898/2026.05.22.724502. Preprint.
3. Vilaia, Alexandra et al. "The European society of pathology progress test: towards a European external quality control tool for pathology education." *Virchows Archiv : an international journal of pathology*, 10.1007/s00428-026-04555-6. 14 May. 2026, doi:10.1007/s00428-026-04555-6
4. Bevere, Michele et al. "Intraductal Papillary Squamous Neoplasm (IPSN) of the Pancreas: Histological and Molecular Characterization of a Novel and Distinct Intraductal Cancer Precursor." *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*, vol. 39,7 101011. 12 May. 2026, doi:10.1016/j.modpat.2026.101011
5. David, Stephan O et al. "The Role of the Mesopancreas in Pancreatic Neuroendocrine Neoplasms." *Journal of clinical medicine* vol. 15,9 3270. 24 Apr. 2026, doi:10.3390/jcm15093270
6. David, Stephan O et al. "The Role of the Mesopancreas in Periampullary Malignancies." *Cancers* vol. 18,9 1434. 30 Apr. 2026, doi:10.3390/cancers18091434
7. Roth, Susanne et al. "Pancreatic cancer." *Nature reviews. Disease primers* vol. 12,1 23. 7 May. 2026, doi:10.1038/s41572-026-00699-6
8. Novruzov, Emil et al. "An auxiliary 18F-FDG uptake pattern clarifying equivocal adrenal gland mass after dual-tracer imaging with 123I-mIBG SPECT/CT and 18F-FDG PET/CT." *Hellenic journal of nuclear medicine* vol. 29,1 (2026): 52-53. doi:10.1967/s002449912949
9. David, Stephan et al. "Standardizing computed tomographic assessment of the mesopancreas in pancreatic cancer patients." *Abdominal radiology (New York)*, 10.1007/s00261-026-05486-1. 9 Apr. 2026, doi:10.1007/s00261-026-05486-1
10. He, Jiangchuan et al. "A Comprehensive Assessment of the Causal Relationship between Atopic Conditions and Pancreatic Cancer Risk: A Two-Sample Mendelian Randomization Study." *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology* vol. 35,6 (2026): 1009-1018. doi:10.1158/1055-9965.EPI-25-1601
11. Carrara, Silvia et al. "Liquid biopsy in pancreatic cancer: current advances, limitations, and future perspectives." *Digestive and liver disease : official journal of the Italian Society of Gastroenterology and the Italian Association for the Study of the Liver* vol. 58,6 (2026): 726-736. doi:10.1016/j.dld.2026.03.002
12. David, Stephan O et al. "The Mesopancreas remains at risk in primary resectable pancreatic cancer patients: time to reappraise resectability criteria?" *Cancer treatment and research communications* vol. 47 (2026): 101176. doi:10.1016/j.ctarc.2026.101176
13. Trappe, Samuel et al. "Diagnostic value of prostate magnetic resonance imaging in men with prostate-specific antigen levels ≥ 15 ng/mL for biopsy decision-making." *Insights into imaging* vol. 17,1 57. 2 Mar. 2026, doi:10.1186/s13244-026-02235-2
14. Arends, Mark J et al. "Changes in the 6th edition of the World Health Organization classification of tumours of the digestive system." *Histopathology* vol. 88,7 (2026): 1295-1314. doi:10.1111/his.70116

15. Esposito, Irene et al. "From IPMN to invasive pancreatic cancer: new spatial insights." *Gut* vol. 75,4 678-680. 6 Mar. 2026, doi:10.1136/gutjnl-2025-337622
16. Yavas, Aslihan et al. "Immunological and molecular insights into acinar-ductal metaplasia and atypical flat lesions as precursor lesions of pancreatic ductal adenocarcinoma." *Journal of experimental & clinical cancer research : CR* vol. 45,1 24. 13 Jan. 2026, doi:10.1186/s13046-026-03643-4
17. Inamdar, Tanvi Vikrant et al. "Hereditary chronic pancreatitis induced plasticity cooperates with mutant Kras in early pancreatic carcinogenesis." *Gut* vol. 75,5 1003-1014. 7 Apr. 2026, doi:10.1136/gutjnl-2025-335947
18. Mellenthin, Claudia et al. "IL-6/GP130/JAK/STAT3 Pathway Activation in Pancreatic Ductal Adenocarcinoma and Its Association With Clinical Features: Protocol for a Retrospective Cross-Sectional Study." *JMIR research protocols* vol. 14 e76811. 15 Dec. 2025, doi:10.2196/76811
19. Al-Monajjed, Rouvier et al. "Analysis of Operator Expertise in MRI/TRUS Fusion-Guided Prostate Biopsy." *Cancers* vol. 17,23 3811. 28 Nov. 2025, doi:10.3390/cancers17233811
20. Langtry, Alberto et al. "Deciphering the role of complement system genes in pancreatic cancer susceptibility and prognosis." *Nature communications* vol. 16,1 10769. 28 Nov. 2025, doi:10.1038/s41467-025-65811-y
21. Esposito, Irene et al. "Minimally Invasive Detection of High-Risk Pancreatic Cystic Neoplasms Using a Novel Multiparametric Single-Molecule Biosensor." *Gastro hep advances* vol. 4,10 100790. 1 Sep. 2025, doi:10.1016/j.gastha.2025.100790
22. Camisa, Paolo Riccardo et al. "Metamorphoses in pancreatic cancer precursors: the role of simple mucinous cysts⁺." *The Journal of pathology* vol. 268,3 (2026): 245-248. doi:10.1002/path.6493
23. Sgodda, Malte et al. "iPSC-based hepatic organoids reveal a heterozygous MYO5B variant as driver of intrahepatic cholestasis." *Hepatology communications* vol. 9,10 e0812. 29 Sep. 2025, doi:10.1097/HC9.0000000000000812
24. Goh, Shouheng et al. "Does X mark the spot? A case series of discrepant preoperative insulinoma localization." *Endocrinology, diabetes & metabolism case reports* vol. 2025,3 e250041. 19 Sep. 2025, doi:10.1530/EDM-25-0041
25. Giannakogeorgou, Anna et al. "Relationship of GDF15 with hepatic mitochondrial respiration is depending on the presence of fibrosis in obese individuals." *Metabolism: clinical and experimental* vol. 173 (2025): 156391. doi:10.1016/j.metabol.2025.156391
26. Schmitz, Daniel et al. "The Differential Diagnosis and Management of Pancreatic Cystic Neoplasms." *Deutsches Arzteblatt international* vol. 122,22 (2025): 617-622. doi:10.3238/arztebl.m2025.0151
27. Abu Hilal, Mohammad et al. "The Brescia International Multidisciplinary Consensus Guidelines on the Optimal Pathology Assessment and Multidisciplinary Pathways of Non Pancreatic Neoplasms in and Around the Ampulla of Vater (PERIPAN)." *United European gastroenterology journal* vol. 13,7 (2025): 1048-1068. doi:10.1002/ueg2.70074
28. Leoni, Zoe et al. "Mucinous cystic neoplasms of the pancreas and liver share a similar DANN methylation profile with mucinous ovarian tumors." *The Journal of pathology* vol. 267,1(2025): 10-24. doi:10.1002/path.6439
29. Scherübl, Hans et al. "Early Detection of Sporadic Pancreatic Cancer." *Visceral medicine* vol. 41,5 (2025): 294-297. doi:10.1159/000545424
30. He, Jiangchuan et al. "Low type-2 immune effectors modulate atopic diseases' protective role in pancreatic cancer risk." *International journal of cancer* vol. 157,3 (2025): 468-479. doi:10.1002/ijc.35397
31. Rieke, Damian T et al. "Precision oncology - Guideline of the Austrian, German and Swiss Societies for hematology and medical oncology." *European journal of cancer (Oxford, England : 1990)* vol. 220 (2025): 115331. doi:10.1016/j.ejca.2025.115331
32. Schneider, Anne T et al. "A decision point between transdifferentiation and programmed cell death priming controls KRAS-dependent pancreatic cancer development." *Nature communications* vol. 16,1 1765. 19 Feb. 2025, doi:10.1038/s41467-025-56493-7
33. Ohri, Nupur et al. "Gene expression dynamics in fibroblasts during early-stage murine pancreatic carcinogenesis." *iScience* vol. 28,1 111572. 10 Dec. 2024, doi:10.1016/j.isci.2024.111572

34. Hommerding, Oliver et al. "High interobserver variability of PTEN immunohistochemistry defining PTEN status in low- to intermediate-risk prostate cancer: results of the first German ring trial." *Virchows Archiv : an international journal of pathology* vol. 487,1 (2025): 87-96. doi:10.1007/s00428-024-03999-y
35. Kobbe, Guido et al. "Aggressive Lymphoma after CD19 CAR T-Cell Therapy." *The New England journal of medicine* vol. 391,13 (2024): 1217-1226. doi:10.1056/NEJMoa2402730
36. Jannusch, Kai et al. "Impact of ¹⁸F-FDG PET/MRI on Therapeutic Management of Women with Newly Diagnosed Breast Cancer: Results from a Prospective Double-Center Trial." *Journal of nuclear medicine : official publication, Society of Nuclear Medicine* vol. 65,12 1855-1861. 3 Dec. 2024, doi:10.2967/jnumed.124.268065
37. Kahl, Sabine et al. "Dysglycemia and liver lipid content determine the relationship of insulin resistance with hepatic OXPHOS capacity in obesity." *Journal of hepatology* vol. 82,3 (2025): 417-426. doi:10.1016/j.jhep.2024.08.012
38. Eberhard, Daniel et al. "Semaphorin-3A regulates liver sinusoidal endothelial cell porosity and promotes hepatic steatosis." *Nature cardiovascular research* vol. 3,6 (2024): 734-753. doi:10.1038/s44161-024-00487-z
39. Janssen, Boris V et al. "Artificial Intelligence-based Segmentation of Residual Pancreatic Cancer in Resection Specimens Following Neoadjuvant Treatment (ISGPP-2): International Improvement and Validation Study." *The American journal of surgical pathology* vol. 48,9 (2024): 1108-1116. doi:10.1097/PAS.0000000000002270
40. Jeising, Sebastian et al. "A clinically compatible in vitro drug-screening platform identifies therapeutic vulnerabilities in primary cultures of brain metastases." *Journal of neuro-oncology* vol. 169,3 (2024): 613-623. doi:10.1007/s11060-024-04763-7
41. Paolino, Gaetano et al. "Comprehensive Characterization of Intraductal Oncocytic Papillary Neoplasm of the Pancreas: A Systematic and Critical Review." *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc* vol. 37,9 (2024): 100554. doi:10.1016/j.modpat.2024.100554
42. Boggi, Ugo et al. "REDISCOVER guidelines for borderline-resectable and locally advanced pancreatic cancer: management algorithm, unanswered questions, and future perspectives." *Updates in surgery* vol. 76,5 (2024): 1573-1591. doi:10.1007/s13304-024-01860-0
43. Xu, Haifeng C et al. "High-Affinity-Mediated Viral Entry Triggers Innate Affinity Escape Resulting in Type I IFN Resistance and Impaired T Cell Immunity." *Journal of immunology (Baltimore, Md. : 1950)* vol. 212,9 (2024): 1457-1466. doi:10.4049/jimmunol.2300637
44. Boggi, Ugo et al. "REDISCOVER International Guidelines on the Perioperative Care of Surgical Patients With Borderline-resectable and Locally Advanced Pancreatic Cancer." *Annals of surgery* vol. 280,1 (2024): 56-65. doi:10.1097/SLA.0000000000006248
45. Valentin, Birte et al. "Magnetic Resonance Imaging-guided Active Surveillance Without Annual Rebiopsy in Patients with Grade Group 1 or 2 Prostate Cancer: The Prospective PROMM-AS Study." *European urology open science* vol. 59 30-38. 19 Dec. 2023, doi:10.1016/j.euros.2023.10.005
46. Perren, Aurel, and Irene Esposito. "Pankreaspathologie – die Schule von Prof. Günter Klöppel" [Pancreatic pathology-the Prof. Günter Klöppel school]. *Pathologie (Heidelberg, Germany)* vol. 45,1 (2024): 2-4. doi:10.1007/s00292-023-01290-6
47. Scandurra, Cecilia et al. "Analysis of Clinical Samples of Pancreatic Cyst's Lesions with A Multi-Analyte Bioelectronic Simot Array Benchmarked Against Ultrasensitive Chemiluminescent Immunoassay." *Advanced science (Weinheim, Baden-Wurttemberg, Germany)* vol. 11,27 (2024): e2308141. doi:10.1002/adv.202308141
48. Esposito, Irene et al. "Histopathologische Diagnostik von soliden und zystischen Pankreasläsionen mit Hauptaugenmerk auf dem duktalem Adenokarzinom : Ein Vademecum für den Alltag" [Histopathologic diagnosis of solid and cystic pancreatic lesions with a focus on ductal adenocarcinoma : A vademecum for daily practice]. *Pathologie (Heidelberg, Germany)* vol. 45,1 (2024): 5-18. doi:10.1007/s00292-023-01288-0
49. Debernardi, Silvana et al. "Molecular characteristics of early-onset pancreatic ductal adenocarcinoma." *Molecular oncology* vol. 18,3 (2024): 677-690. doi:10.1002/1878-0261.13576

50. Sarabhai, Theresia et al. "Loss of mitochondrial adaptation associates with deterioration of mitochondrial turnover and structure in metabolic dysfunction-associated steatotic liver disease." *Metabolism: clinical and experimental* vol. 151 (2024): 155762. doi:10.1016/j.metabol.2023.155762
51. Krawczyk, Natalia et al. "Determination of the androgen receptor status of disseminated tumor cells in primary breast cancer patients." *Archives of gynecology and obstetrics* vol. 309,4 (2024): 1525-1533. doi:10.1007/s00404-023-07225-z