

## **ESP Advanced Training Centre (ESP-ATC) for Molecular Pathology**

Institute of Pathology and Neuropathology

General and Molecular Pathology Reference Centre of Hematopathology

Chairman Prof. Falko Fend M.D.

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### **Introduction and Description of Centre**

The Institute of Pathology and Neuropathology, division of general and molecular pathology, University Hospital Tübingen serves the University Hospital, several regional hospitals and private physicians. The spectrum of cases encompasses all subspecialties of diagnostic surgical pathology, autopsy pathology and molecular pathology, and the institute processes approximately 50,000 specimens per year. Main areas of specialist expertise, with high numbers of cases for second opinion and case submissions from not directly affiliated centres are hematopathology, molecular pathology, gynaecological pathology, and cardiac pathology. The Institute is one of 8 official reference centres for hematopathology in Germany (<https://lymphome.de/referenzpathologen/>). In addition to clinical diagnostics, the Institute is heavily involved in teaching, has several active research groups and has a broad portfolio of advanced molecular, cell biological and tissue imaging and microdissection technologies available. For molecular diagnostics, all standard techniques and especially next generation sequencing (NGS) using Ion torrent and Illumina platforms are established, complemented by Nanostring and HTG gene expression profiling equipment. The Institute is fully accredited according to DIN EN ISO 17020.

### **Responsible staff for ESP Advanced Training Centre**

F. Fend and L. Quintanilla-Martinez, who will be responsible for the training centre, are very experienced and internationally renowned hematopathologists with a long track record of high-level research in various fields of hematopathology, including lymphoma pathobiology and genetics, myeloma and chronic myeloid neoplasms.

F. Fend is past chairman of the European Bone Marrow Working Group (EBMWG) and past speaker of the Hematopathology working group of the German Society of Pathology. In addition to his position as the head of the hematopathology reference centre, he is lead reference pathologist for several clinical studies and coordinates the pathology work of the EuroClonality consortium and co-organizes the annual EuroClonality workshop. He has authored and co-authored more than 400 publications, as well as book chapters in standard textbooks with clear focus on hematopathology.

L. Quintanilla-Martinez is the current president of the European Society of Haematopathology (EAHP), member at large of the Society of Hematopathology (SH), member of the scientific advisory committees of the International Conference on Malignant Lymphoma (ICML), the European Hematology Association (EHA), the European Society of Molecular Oncology (ESMO) and Editor of the standard textbook "Hematopathology" (Jaffe/Arber/Campo/Harris/Quintanilla-Martinez) and serves as Associate Editor of high ranking Pathology and Hematology journals. She has authored and co-authored more than 300 publications with clear focus on hematopathology.

Both have extensive national and international experience as invited speakers in pathology and hematology meetings and have participated as panel members in multiple workshops of the EAHP, SH and EBMWG. Please find CVs enclosed. Complete list of publications available upon request.

In addition, three further staff pathologists (C. Schürch, D. Nann, J. Milla) have advanced hematopathology experience and are active in hematopathology research.

The team of molecular diagnostics currently has 6 full-time molecular biologists involved both in molecular diagnostics as well as research. The head of the molecular diagnostics lab, Dr Irina Bonzheim, has many years of experience in molecular diagnostics with a focus on hematopathology and has published extensively in molecular pathology with focus on hematopathology.

### **Previous experience in hosting clinical and research fellows**

In the last few years, we had more than 10 clinical fellows in hematopathology from all over the world (Portugal, Germany, Mexico, Korea, Italy, Taiwan, Switzerland), who spent 3 months to one year at our department. In addition to participating in the daily sign-out of hematopathology cases including the consult cases and the pertinent molecular diagnostics, the fellows had the opportunity to participate in re-search projects, which resulted in several publications.

### **Academic environment**

Tübingen University is a leading university in Germany, as one of the “Universities of Excellence” and seat of the only oncology-related Cluster of Excellence (iFIT) in Germany. In addition, Tübingen is member in the German Consortium for Translational Cancer Research (DKTK) and seat of one of the future National Centres for Tumor diseases (NCT). The University Hospital has a large hemato-oncology department including allogeneic stem cell transplantation and CAR-T-cell units.

### **Area of training**

#### Molecular Pathology

The laboratory of molecular diagnostics covers all relevant aspects of diagnostic molecular pathology, including mutational analysis by conventional sequencing and NGS, gene expression profiling, fluorescence in situ hybridization, microdissection, detection of translocations by NGS, clonality analysis by Genescan analysis or NGS, q(RT-)PCR and detection of viral infections by quantitative PCR. Last year, more than 3.700 molecular studies of 2.000 cases were performed, with an annual increase of approximately 10%. The spectrum of disorders investigated includes solid tumours, including non-small cell lung cancer, colorectal cancer and breast cancer as most common indications, sarcoma, lymphoma and myeloid disorders and infectious diseases, especially viral myocarditis. Extensive molecular diagnostics is performed in the framework of the Centre for Personalized Medicine (ZPM) of the federal state Baden-Württemberg. Within the University Hospital, we closely collaborate with the Institute of Medical Genetics, which is one of the four National Sequencing Centres (NCCT) in Germany.

Our Institute is part of the nNGM (National network for genomic medicine - lung cancer), reference laboratory for external quality control trials for clonality analysis and a central pathology lab for the EuroClonality consortium.

In the laboratory of molecular diagnostics, a variety of translational research projects are currently active, with a focus on, but not restricted to molecular genetics of hematolymphoid neoplasms.

**Number of trainee positions and time of stay**

1 position/year

Duration: 3 months to 1 year

The positions can be filled any time of the year (365/365).

Training will not be charged. The University Hospital will assist in finding low-cost accommodation and will assist with the documents. A detailed, official certificate will be issued after completion of the training. Ahead, an official letter of invitation specifying time of stay, contents of training and other relevant issues will be provided.

Contact person for trainees:

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