Universitätsmedizin Essen
Universitätsklinikum

Job Vacancy

The University Hospital Essen offers first class medical services in the Ruhr metropolis. Every year, 225.000 patients are treated in 30 clinics, 27 institutes and specialized centers. The over 8.000 employees offer medical care with state-of-the art diagnostics and therapies, which meet highest international standards. Patient care is connected with basic and translational research at an internationally competitive level.

PhD Position (m/f/d) - Multimodal dissection of immunotherapy resistance in kidney cancer

(pay grade: EG 13 TV-L)

Work Area: Department of Urology - Research laboratory
Job ID: 13346

Start Date: Next possible Date
Work Scope: part-time employment / 25,025 h
Contract Type: temporary
Contract duration: 36 month, for the duration of the project § 2 (2) WissZeitVG

Your tasks:

Project "Multimodal dissection of immunotherapy resistance in kidney cancer: mechanisms and predictive biomarkers"
Non-clear cell renal cell carcinoma (nccRCC) is a heterogeneous group of aggressive kidney cancers in which response to immune checkpoint inhibitors remains unpredictable. The international CRITERIA consortium aims to understand why some patients respond to immunotherapy while others do not by integrating histopathology, spatial biology, and multi-omics profiling.

Within this project, the Grünwald lab will investigate spatial tumor organization programs ("histo-archetypes") and their cellular and molecular composition. By combining classical histopathology with advanced omics measurements and patient-derived model systems, we seek to identify clinically actionable biomarkers and mechanistic principles of immune evasion in human RCC.
The position is embedded in a multidisciplinary and international collaboration including pathologists, oncologists, immunologists, and computational biologists (Germany & France) working on patient-derived clinical samples.

You will work at the interface of precision pathology and experimental systems biology:

- Identify spatial tissue "histo-archetypes" associated with therapy response
- Perform histology-guided laser capture microdissection followed by multimodal OMICs analyses
- Integrate imaging, proteomic and transcriptomic datasets to nominate candidate driver and marker genes
- Functionally validate your findings in vitro using cell models and patient-derived

fragment cultures
• Help develop deep learning models for segmentation and classification of histological whole-slide images
• Collaborate with clinical and computational partners both locally and across the consortium
• Meticulously document your experiments and findings
• Participate in meetings and seminars: regular presentation of the current status of your project with the aim of discussing scientific progress and possible improvements, both internally and at conferences

Your profile:

We are looking for a curious and motivated researcher with strong quantitative thinking:

• Master's degree in molecular biotechnology, biochemistry, biomedicine, biomedical engineering, or related field
• Alternatively, Master's degree in bioinformatics, or related field, with proven record of wet-lab based training
• Strong interest in biomedical research and a deep understanding of molecular biology and cancer biology
• Experience with cell culture work, ideally patient-derived model systems
• Experience with or strong training in computational data analysis using R, Python or similar language
• Experience with or strong interest in tissue-based analyses, ideally histology/histopathology or digital image analysis
• Strong motivation for self-directed problem solving and troubleshooting
• Excellent teamwork skills and willingness to collaborate within an interdisciplinary team of biologists, physicians, and bioinformaticians
• Very good English communication skills (written and spoken)

Look forward to:

• Full funded 3-year PhD position
• Access to cutting-edge methodologies and infrastructure
• A supportive, international collaborative team environment
• Opportunities for training and career development within a structured graduate program
• A secure job in the public service of the state of NRW
• Fair payment in accordance with the collective wage agreement (TV-L) incl. annual bonus payment and supplementary company pension scheme
• 30 days of vacation per calendar year (for a full-time position)
• Interdisciplinary work with colleagues from other departments
• Working with modern equipment and certified quality standards
• Family-friendly corporate culture, e.g. company daycare center, vacation program for school-age children, advice and support from the Employee Service Office in all life situations
• Wide range of training and continuing education opportunities, e.g. at the Training Academy of UK Essen

• Health Management, e.g. company integration management, vaccinations, promotion of sports activities
• Attractive fringe benefits, e.g. reduced-price canteen meals, community events, accommodation in student residences

General conditions:

- The pay grade classification depends on the personal and collective legal prerequisites.
- The University Hospital Essen is an equal opportunity employer. Female scientists are particularly encouraged to apply.
- The participation in secondary employment depends on the „Hochschulnebentätigkeitsverordnung“ of North-Rhine Westphalia.
- Disabled applicants will be preferentially considered in case of equivalent qualification.
- The position is also available as part-time employment.

You will find detailed information on the job advertisement and contact persons behind the button - Apply now:

https://bewerbung-karriere.ume.de/Vacancies/13346/Application/CheckLogin/1

We use your data exclusively for application purposes in accordance with the applicable data protection regulations. Further information can be found in the privacy statement on our homepage at: www.uk-essen.de.