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Smruti Karale

Dear Smruti,

We are delighted to inform you that you have been accepted for the position of volunteer visiting researcher in my laboratory at Weill Cornell Medical College starting September 1st, 2017 for one year. The university will provide no financial support during your time at the university.

In my laboratory, you will have the opportunity to participate in the following activities:

- Under supervision of designated research associate in the laboratory, participate in the design, planning, execution, and analysis of the research projects related to the role of human airway basal stem/progenitor cells in the pathogenesis of airway remodeling phenotypes relevant to asthma, COPD, and lung cancer.
- Obtain the knowledge and advanced skills related to using advanced airway modeling approaches using human airway epithelial stem cells, including air-liquid interface-based organotypic airway wall model (with and without co-culture with autologous stromal and immune cell populations) and 3D airway organoid model to study specific molecular pathways and cellular mechanisms that mediate the cross-talk between the airway stem cells and stromal (fibroblasts, smooth muscle cells), endothelial and immune cell populations relevant to regulation of airway stem cell function in health and lung disease.

- Under appropriate supervision, participate in scientific analysis of research data using advanced statistical and bioinformatics approaches, attend lab meetings, research seminars at Weill Cornell and in other institutions (Rockefeller University, Memorial Sloan-Kettering Cancer Center), prepare research presentations for internal and external meetings and participate in manuscript preparation.

As you know, research in my laboratory is mainly focused on human lung biology and disease. The main goal of our research is to understand human airway biology at the global level and single cell resolution and translate fundamental discoveries and basic science concepts into effective patient-specific therapeutic targeted approaches. By visiting my laboratory and participating in our research projects, under appropriate supervision, as a volunteer visiting research, you will have the opportunity to study signaling pathways activated in human airway stem cells relevant to pathogenesis of airway remodeling in common lung diseases. These pathways and potential novel mechanisms are needed for development of innovative, patient-specific therapeutic approaches to prevent the progression of early pathologic changes in the human airways into chronic reversible diseases, such as asthma, chronic obstructive pulmonary disease, pulmonary fibrosis, and lung cancer.

Please feel free to contact me if you have any questions or require any additional information.

With best wishes,

Sincerely,

Renat Shaykhiev, MD, PhD