Primary cilia, developmental diseases, and cancer

A postdoctoral position is available in the Mukhopadhyay laboratory in the Department of Cell Biology to study the role of cilia and cilia-generated signaling in development and disease. The first cellular organelle to be described in biology, the primary cilium was long mistaken as a vestigial appendage. The primary cilia are now considered as vital sensory organelles for detection and transmission of a broad range of chemical and mechanical signals in most cells. Signaling mediated by the primary cilia plays fundamental roles in cellular differentiation, polarity and cell cycle control. We utilize a variety of biochemical, cell biological and reverse genetic approaches to understanding signaling mediated by cilia, and dissecting their role during normal development and carcinogenesis. Studying signaling paradigms in cilia instructs us about developmental programs, previously unknown phenotypic outcomes, and disease pathogenesis. Going forward, we will focus in understanding the mechanisms underlying these newer phenotypes, particularly with emphasis on cross regulation of morphogenetic pathways, and in devising novel therapeutic strategies for targeting associated diseases. A detailed description of some of the current lab projects can be found at: http://www.utsouthwestern.edu/labs/mukhopadhyay/ and recent publications on forebrain and cerebellar development, medulloblastoma pathogenesis, and renal cystogenesis.

We are a closely-knit group of scientists with diverse sets of expertise and passionate about solving the particular biological problem, often embarking on newer methods and paradigms as necessary. We utilize a variety of high quality core services inside and outside UT Southwestern that enables us to address a biological problem using expertise from various fields. We also collaborate with groups inside UT Southwestern and Children’s Hospital, and outside campus for addressing the relevance of our findings in the context of human genetics and disease.

Candidates must have a recent Ph.D. or M.D./Ph.D., with less than three years of prior postdoctoral experience, and a demonstrated research record with at least one first author publication. Preference will be given to applicants with a strong background in cell and molecular biology and mouse genetics. Interested individuals should email saikat.mukhopadhyay@utsouthwestern.edu their current curriculum vitae, contact information for references, and a cover letter highlighting prospective research plan.

UT Southwestern Medical Center is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans and individuals with disabilities are encouraged to apply.