Regulation of CFTR gene expression

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Errors in the cystic fibrosis transmembrane conductance regulator (CFTR) gene are associated with the common inherited disorder cystic fibrosis. This gene has a complex pattern of tissue specific and temporal regulation (reviewed in Gosalia and Harris 2015, Genes 6, 543-558). We recently showed the differential contribution of cis-regulatory elements to the higher order chromatin structure and expression of the locus (Yang et al. 2016, Nucleic Acids Research 44, 3082-3094). Our current goals are 1) to determine the mechanisms of action of novel tissue specific and developmental regulatory elements in CFTR; and 2) to develop novel therapeutic approaches that target CFTR gene regulatory mechanisms.

Successful applicants for this CFF/NIH funded program will have a strong record of accomplishment as shown by publications as a graduate student and/or postdoc, be highly motivated and have a passion for human genetics/gene regulatory mechanism research. Expertise in one or more of the following areas is required: familiarity with use of public genome browsers and large data repositories; state of the art genomics technologies including ChIP-seq, RNA-seq, ATAC-seq, 4C-seq) and the use of relevant bioinformatic pipelines. CRISPR/Cas9 genetic manipulations.

Familiarity with general techniques of molecular biology and mammalian cell biology is essential. We are part of a vibrant and interactive research community at Case Western Reserve University and occupy excellent, modern laboratory space.

Please send an electronic letter of application, quoting the reference CWRU/AH2/2017, Curriculum Vitae and contact information of 3 referees to: jobsview@case.edu. Hiring is contingent upon eligibility to work in the United States.

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