

David B. Jacoby, M.D.

Dr. Jacoby came to OHSU in 2003 as Chief of Pulmonary and Critical Care. Expanding that division in all mission areas, he was the initial Principal Investigator for the division's NIH T32 training grant. He was Vice Chair for Research in the Department of Medicine from 2008–2018, and he currently serves as Associate Director for Education and Mentoring in the Oregon Clinical and Translational Research Institute (Director KL2 Training Program). He has served on many NIH grant review committees and was a standing member of the Lung Cell and Molecular Immunology Study Section.

Dr. Jacoby's research, focused on the neurophysiology of asthma, has been continuously funded by the NIH for 32 years. His lab uses a variety of models of airway disease, including viral infection, allergen inhalation, ozone exposure, and transgenic models to study changes in airway nerve structure and function. He has shown that viral infections, a common cause of asthma attacks, affect the efferent nerves controlling the airway smooth muscle, as well as airway sensory nerves. In the case of the efferent nerves, there is loss of expression and function of inhibitory M2 muscarinic receptors on the nerves, causing increased neurotransmitter release and bronchoconstriction. In addition, the association of eosinophils with airway nerves markedly increases sensory nerve growth. His lab developed a new method using confocal microscopy of optically cleared tissue whole mounts to make 3D reconstructions of the sensory innervation, and to quantify this using custom developed software. This is the basis of ongoing projects examining sensory innervation in biopsies from patients with asthma and other airway diseases. These changes can also be demonstrated using cultured sensory neurons, where addition of eosinophils to the culture increases neurite growth. Most recently, a major focus of the lab has been maternal-fetal programming of airway neural development. Maternal IL5 crosses the placenta, inducing eosinophilia in the fetus, and this leads to marked airway hyperinnervation and airway hyperresponsiveness in the offspring.

Since 2008, Dr. Jacoby has also been the director of OHSU's MD/PhD Training Program, as well as Principal Investigator on our NIH Medical Scientist Training Program grant. With the strong support of Dean Sharon Anderson, this program has recently expanded and continues to provide a wide range of training opportunities for aspiring physician-scientists in a structured, but flexible program of instruction.