OAKLAND UNIVERSITY

Friday, November 13, 2009

Assistant Professor Susmit Suvas Studies the Immune System

Our **immune system** fights off viral infections, such as the **H1N1 influenza virus** that is responsible for the current swine flu **pandemic**. At the heart of the immune system is a type of **white blood cell**, known as "**T cells**". CBR member **Susmit Suvas**, of the **Department of Biological Sciences**, and his team study how T cell function changes with age. In the October 2009 issue of **Mechanisms of Ageing and Development** (Volume 130, Pages 709-712), they published a paper describing how **Advancing Age Leads to Predominance of Inhibitory Receptor Expressing CD4 T Cells**. There are several types of T cells, and those known as **CD4 T cells** help other white blood cells (B cells) fight off infection. Suvas says that a "decline in CD4 T cell function is the hallmark of aging." His team discovered that with advancing age the amount or expression of inhibitory receptors, such as PD-1, ICOS and CTLA-4 (all molecules that inhibit T cell function), on CD4 T cells increases. He believes that "a better understanding of the factors that underlie the age-associated defects in CD4 T cells is needed to develop strategies to boost immunity in elderly." In particular, he thinks that the age-related increase in the inhibitory receptors on a CD4 T cell impairs the function of this particular immune cell type and makes elderly individuals more susceptible to viral infections such as the influenza virus. Suvas coauthored this paper with a group of outstanding OU graduate students who he mentors. Lead authors Rudragouda Channappanavar and Brandon Twardy are each working towards a PhD in **Biomedical Sciences: Biological Communication**. Their research was supported by funds from **American Federation for Aging Research**.

SUMMARY
Assistant Professor Susmit Suvas, of the Department of Biological Sciences, and his students study how T cell function changes with age.

Created by Brad Roth (roth@oakland.edu) on Friday, November 13, 2009
Modified by Brad Roth (roth@oakland.edu) on Friday, November 13, 2009
Article Start Date: Friday, November 13, 2009