The process of new blood cell development is known as hematopoiesis. Drosophila hematopoiesis shows several similarities with vertebrate counterpart both at the level of phases as well as signalling molecules participating in this process. Although active sites of hematopoiesis have been identified in embryonic and larval stages, it was a general belief of the field that adult fruit-flies are devoid of these active sites and are solely dependent on the long-lived hemocytes of earlier developmental stages. We argued since the adult stage is the most exploratory phase, therefore, chances of encountering various insults is much higher. Thus, just the long-lived blood cells might not be sufficient for dealing with the diverse challenges that it might face during adulthood. We discovered that there is indeed a new spell of blood cell development in adult fly. We have identified hematopoietic centres/hubs situated dorsally in the adult abdomen. This adult hematopoietic hub harbours progenitor cells along with differentiated blood cells. These progenitors are capable of forming new blood cells which can respond to immune challenges. In the next section, I have attempted to characterize tisssues in an around the hematopoietic hub which might act as a a niche or local microenvironment. The expression studies along with genetic correlate provides a unique opportunity to demonstrate how aberrant niche signal/s can lead to hematopoietic malignancy. Altogether, the finding of the hematopoietic hub in adult Drosophila brings about a paradigm shifts in our understanding of post-larval hematopoiesis. In the third part of my thesis, I demonstrated an in vivo spatiotemporal analysis of macrophage-mediated efferocytosis (the process of apoptotic tissue clearance) in response to massive tissue remodelling during metamorphosis. Overall, my work provides a significant enhancement over the current understanding of Drosophila post-larval hematopoiesis and immune cell activity in response to tissue remodelling. Considering the remarkable similarity between Drosophila and vertebrate hematopoiesis, my work can be employed to gain a better understanding of hematopoiesis and related disorders.