\*\*Transporter regulation\*\*. Previous studies have shown that plant amino acid transporter proteins are essential for allocation of amino acids throughout the plant and have implications in plant growth and seed nitrogen and protein content. Further, amino acid transporter protein function is highly regulated by the environment (i.e. light, temperature).I am interested in exploring and understanding the molecular mechanisms of plant amino acid transporter regulation by environmental factors at the gene and protein levels. While whole families of amino acid transporters have previously been identified and physiologically characterized, their regulation is still an area of further exploration and discovery. Currently, limited information is available regarding the relationship between amino acid transporters and the light signaling pathway.

\*\*Amino acid transporter regulation\*\* <br>

1) Elucidate the main players of the plant light signaling pathway involved in regulating amino acid transporter gene expression. <br>

2) Identify key amino acid residues involved in plant amino acid transporter protein function. <br>

3) Identify mechanisms of amino acid transporter protein regulation in plants and the role of environmental signals. <br>