

# Biochemistry of Neurodegenerative Diseases



## Leah Chase

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B.S., University of Michigan, Flint, 1993  
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Director of the Neuroscience Minor Program  
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### Grants and Awards:

- “Studies of the Regulation of System  $x_c^-$  Activity in a Dopaminergic Cell Line and Its Involvement in the Pathogenesis of Parkinson’s Disease” Campbell Foundation
- Towsley Research Scholar

### Key publications and presentations:

- “Peroxide Triggers the Translocation of the Transporter System  $x_c^-$  to the Plasma Membrane in Cultured Human Glioma Cells” Natalie Sheldon, Mary VerHeulen, Melissa DeYoung, and Leah Chase. *Experimental Biology*. April, 2006.
- “Structure/Function Studies of System  $x_c^-$ .” Corissa Lamphear and Leah Chase, *Experimental Biology*, April, 2006.



Our research is focused on understanding the molecular events that underlie oxidative cell death associated with neurodegenerative disorders. We are specifically interested in the regulation of a membrane transporter, System  $x_c^-$ , which transports cystine into the cell. Thus, the activity of this transporter plays a significant role in promoting the synthesis of the antioxidant, glutathione. We are using biochemical and electrophysiological approaches to understand the structure/function and regulation of this transporter.

