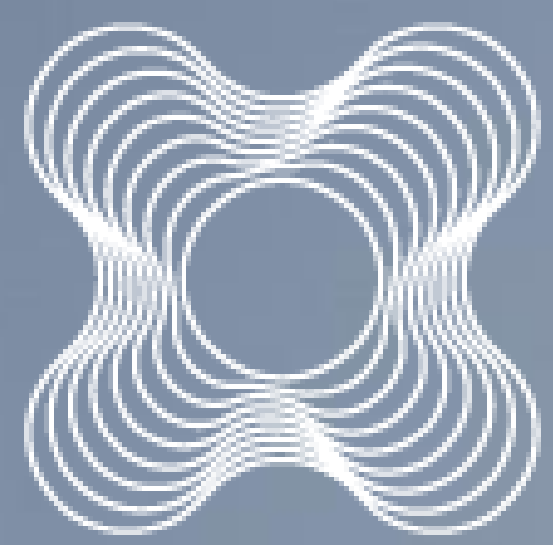




Finding a cure for cell-death driven diseases



Ferroptosis in disease

Organ injury, neurodegeneration & children cancer

- Validate ferroptosis anti-cancer therapeutics in children cancer
- Nanopore episequencing to predict ferroptosis resistance in tumors
- Study ferroptosis during acute lung injury, multiple sclerosis or Alzheimer's
- Nanopore episequencing to predict organ injury, infection and antibiotic resistance in ICU patients

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Cardiovascular disease

- Role of lipid peroxidation in chronic kidney disease and its cardiovascular co-morbidities
- The endothelial cell as primary sensor in vascular disease

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Ferroptosis in cancer

- Pan-cancer ferroptosis sensitization via chromatin remodeling
- Synergy of ionizing radiation & plasma therapy
- Focus: neuroblastoma, lung, breast & colorectal cancer
- Target discovery through gene editing
- Targeted delivery for ferroptosis therapy

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Models & Techniques

- **Multi-omics & molecular profiling:** DNA methylation, transcriptomics, lipidomics, metabolomics, ATAC-Seq
 - **Protein & cellular analysis:** Western blot, IHC, proteomics, flow cytometry
 - **Functional & structural studies:** Cell death analysis, bone imaging, metal analysis (AAS / ICP-MS)
- In Vivo* (Rat, mouse)
- Ischemia/reperfusion
 - Cardiovascular calcification
 - Osteoporosis
 - Disturbed bone turnover
 - Transgenic mice
 - Multi organ failure
 - Sepsis
 - Xenograft tumor models
- In Vitro*
- Primary cell cultures
 - Cell lines

