The Transport Process Research (TPR) Group focus on experimental and modeling studies of heat, mass and momentum transport problems of industrial interest. The current interests include: drying; electronics cooling; PEM fuel cell & lithium Ion battery; heat and mass transfer under jets; mathematical modeling of minerals, metals and materials processing operation (M3TC).

Drying

Numerical simulation and experimental investigation of various kinds of drying process, novel design of dryer with CFD.

New approaches for electronic cooling

Experimental and numerical investigations have been carried out on various new approaches for thermal management of electronics.

Mathematical modeling of M3TC

Using mathematical modeling to study the various processes in steelmaking and in the making of steel products: post combustion, continuous steel casting, lost foam casting, hydrocyclone, industrial tundish.

PEM fuel cell & lithium Ion battery

Explore new design for enhancing the mass transport process in a PEMFC; develop 3D computational model of PEMFC; carry out an experimental study to investigate the parameters that govern fuel cell performance and validate simulation results.

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