Prof. Eric Rivard

Inorganic Chemistry, Polymer/Nanomaterial Synthesis, Catalysis, Light-emitting Materials

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R&D CAPABILITIES
The Rivard group has extensive experience in chemical synthesis on many length scales: from molecules to polymers to nanomaterials. We have diverse research interests including the development of mild routes to luminescent nanomaterials and phosphorescent compounds (see image below), the design of new ligands for efficient C-C and C-N bond forming catalysis and olefin polymerization. We have also developed low band gap polymers for solar cell applications and are working with collaborators in Japan to design next generation hole transport materials (for device applications).

TECHNIQUES & INSTRUMENTATION SERVICES
Spectroscopic characterization of materials via NMR, IR, UV-vis, fluorescence spectroscopy, mass spectrometry, gel permeation chromatography, TGA/DSC, elemental analysis, ability to run reactions under inert atmosphere and in-house photolysis equipment.

INDUSTRY COLLABORATIONS
We are working with Prof. João Soares (Chem Eng) and partners at Kemira and ExxonMobil (NSERC CRD and IOSI funded project) to apply new polymerization strategies for the development of flocculants for enhanced water recovery and land reclamation in oil sands industry.