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Abstract: Organic solvents are used as electrolytes in lithium-ion batteries currently. They work well by most accounts, lithium flows through them pretty quickly, they're manufactured at scale but organic solvents are a problem because they're very flammable.

Hence there is a need for entering the unknown part of material science where we are combining what we know from the conventional approaches with these new ideas from big data and machine learning to accelerate the current work of search for materials for solid electrolytes in the lithium-ion batteries. The development of new solid electrolytes could ease a lot of concerns over the safety, stability, energy density, and cycle life of commercial batteries.

Furthermore, the development of new solid electrolytes could facilitate the development of structural batteries for the weight and volume delicate applications of electric spacecraft and aircraft. Keywords: Solid Electrolyte, Machine Learning, Lithium-ion batteries, Superionic Conductors, Solid-State Batteries.