

LEMELSON-MIT

\$30,000 Illinois Student Prize



According to the EPA, as many as 17 million people in the US may currently be exposed to dangerously high levels of a toxic rocket fuel component through public drinking water supplies. This contaminant, perchlorate, disturbs proper function of the thyroid and has a disproportionately adverse effect on prenatal and neonatal development. James developed a new class of ion-exchange fiber composite (IXFC) materials exhibiting the potential for efficient, high capacity removal of perchlorate from drinking water in a low-cost, high-flow configuration such as a pitcher or faucet style filter. James is President and CEO of Serionix, which develops high performance technologies for water and air purification. Serionix is differentiated by rapid filtration rates, well-defined selectivity for targeted chemicals, and potential for low-cost production. James is the recipient of two Federal Small Business Innovation Research (SBIR) grants aimed at developing new technologies for both residential water treatment and chemical warfare protection at the facility scale.

2012 FINALIST

JAMES LANGER

GRADUATE STUDENT **MATERIALS SCIENCE & ENGINEERING**