

Consulting Chemical Engineer at M² Thermal Solutions

Location: Remote (physically, Somerville Massachusetts)

M² Thermal Solutions is developing a first-of-kind air conditioner built on a novel physics-based approach. We're a new, exciting startup based out of Greentown Labs in Somerville, MA.

We are passionate about decarbonization and tackling the challenge of climate change. Our solution is a technology that has the potential to cut energy consumption of space cooling by 70%. A finalist team in the Global Cooling Prize, we're eager to move this innovative new technology through the development cycle and ultimately to make an enormous impact on space cooling emissions.

What we need:

We're looking for a skilled, creative chemical engineer to provide short term consulting services regarding the company's liquid desiccant-based dehumidification system. You would provide detailed chemical systems analysis and design input to assist in technology validation. You would work closely with the CTO, rapidly iterating on important design and analytical decisions.

What you'll do:

- Analyze a novel thermochemical system to validate system feasibility
- Generate thermochemical property data for several liquid desiccant solutions
- Create a software-based model of the proposed system
- Run detailed analyses on closed-loop system performance for the proposed cycle
- Make recommendations for cycle improvements including alternate operating points, different components, or processes
- Make recommendations for physical testing methodology, required lab equipment

More about you:

- You are passionate and innovative
- You communicate early and often
- You are kind and courteous to others
- You are adaptable and excel in a less defined, high pace environment

What you'll bring:

- Master's degree or PhD in Chemical Engineering, Materials Science, Chemistry, or related field
- Expertise in liquid desiccants or electrolyte chemistry, including equilibrium calculations, reactions, phase stability, crystallization, dilution, vapor pressure, and osmotic pressure

- Expertise in desalination systems, particularly membrane-based systems
- Experience modeling electrolytic solution thermophysical properties, calculating theoretical desiccant system performance, and engineering implementation
- Experience in modeling novel thermochemical systems and cycles
- Experience with MATLAB, Aspen, HSC Chemistry, OLI Chemistry, or other chemical process simulator software
- Hands-on lab experience with desiccant or similar systems is a plus

What you get:

- Competitive hourly rate for consulting
- Potential to continue work in future long-term advisory role or full-time position
- Opportunity to help define innovative, high-tech cooling technology with motivated team