



K.-C. Kenneth Park | Surface Engineering

Assistant Professor of Mechanical Engineering
McCormick School of Engineering

Faculty Overview

- Bio-inspired surface engineering and interfacial phenomena research
- Notable Awards: IChemE Global Award (2016);
Harvard Postdoctoral Awards for Professional Development (2016);
MIT Wunsch Foundation Silent Hoist and Crane Award
for Outstanding Graduate Research (2013)

Intellectual Property Portfolio

Patents (1 licensed; 6 issued; 17 patent applications)

Current Areas of Industry Collaboration

Functional surface development, thermal-fluids engineering, water-energy nexus

[The Park Group](#)

Research Summary

Developing functional surfaces to capture and release multiscale particles in fluids for a sustainable future:

1. Thermal-fluids engineering (particle-laden flow, phase change heat transfer, mass diffusion, and droplet/bubble/particle-surface interaction)
2. Multi-length scale surface fabrication (nano, micro, and millimeter scale manufacturing)
3. Bio-inspired surface engineering for a sustainable future (clean water, energy-saving, and environmental pollution/medical hazard reduction surface designs)

Notable Research Papers

- [Frost-free zone on macrotextured surfaces](#) (PNAS, 2020, Figure A)
- [Condensation on slippery asymmetric bumps](#) (Nature, 2016, Figure B)
- [Onset time of fog collection](#) (Soft Matter (Back Cover), 2019, Figure C)
- [Full list](#)

Popular Press

- [May the Fog Be with You: Ken Park seeks to unlock the potential of fog, smog harvesting through bio-inspired surface engineering](#)
- [Leaf-inspired Surface Prevents Frost Formation](#)
- [An Unlikely Ally in the Fight Against Plastic Pollution](#)

