

Daniel S. Seara
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Mechanical and Industrial Engineering
University of Illinois, Chicago
Group website

Join the Seara Group at UIC

2 PhD positions are available in the group of Daniel Seara in the <u>Mechanical and Industrial Engineering department at UIC</u>, with an expected start in Fall 2026.

About our research. The Seara Group uses theory and modeling to study the emergent mechanics and dynamics of complex systems, from colloids to cells to societies. Our main focus are on materials whose microscopic constituents are active, decision-making agents, and ask how collective behavior arises from simple interactions. We do so by combining minimal mathematical modeling with data-driven discovery of equations and reduced representations, often in close collaboration with experimentalists.

Students will have the opportunity to shape their thesis projects. Current interests in the group include: adaptive sociohydrodynamics, excitability in swarms, learning in active materials, mechanochemical control of biological materials. In general, we are interested in studying "smart" materials using the tools of dynamical systems, stochastic processes, and machine learning.

An ideal candidate is curious, persistent, and communicative. They will have a bachelor's or master's degree in Physics, Applied Mathematics, Engineering, or a related field, and have an interest in theoretical and computational research.

What I Offer

- Full funding via research and teaching assistantships, including stipend
- A collaborative, interdisciplinary environment at UIC and across Chicago
- Strong ties to experimental work across soft, bio, and robotic matter.
- Mentorship in both research and broader professional development

How To Apply. Fill out this Google Form. Qualified candidates will be contacted to schedule a follow-up interview and encouraged to submit a formal application to the MIE department at UIC. Early applications are due **December 15** with the main fall deadline being **February 15**.