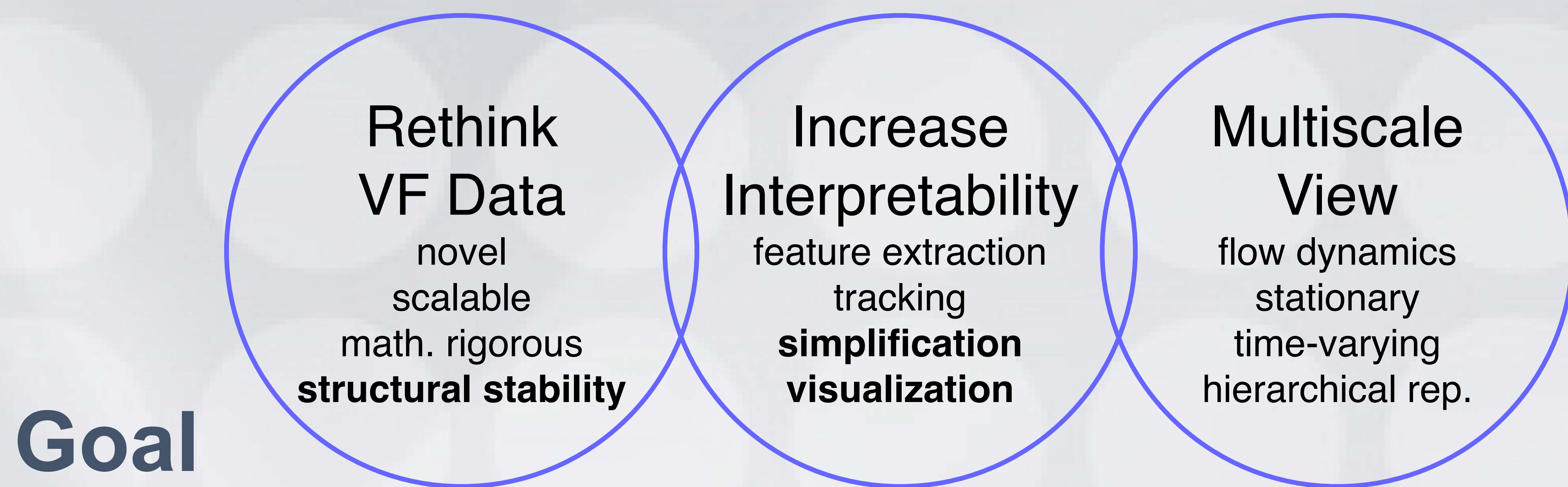
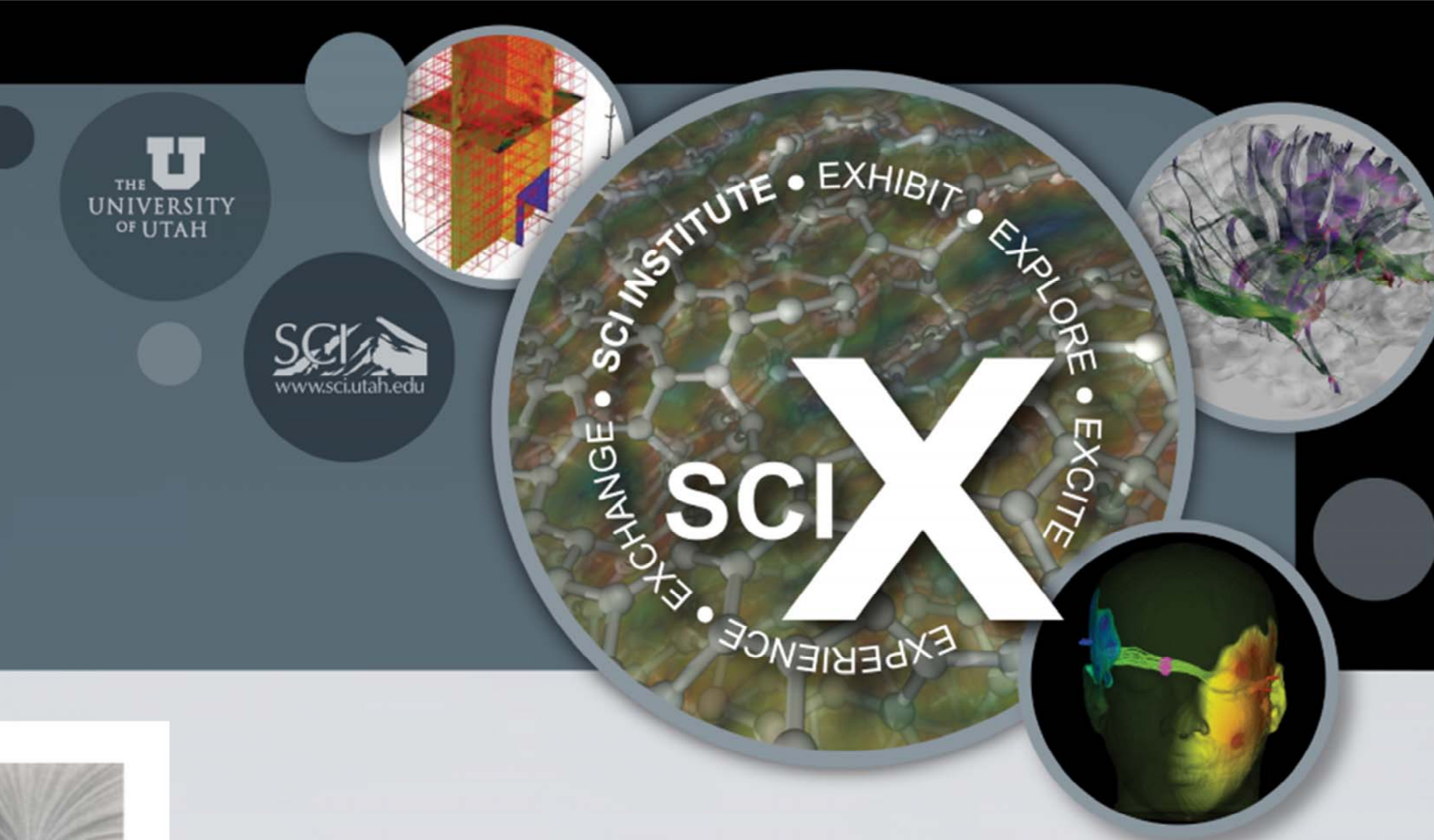


Robust Feature Simplification of Vector Fields

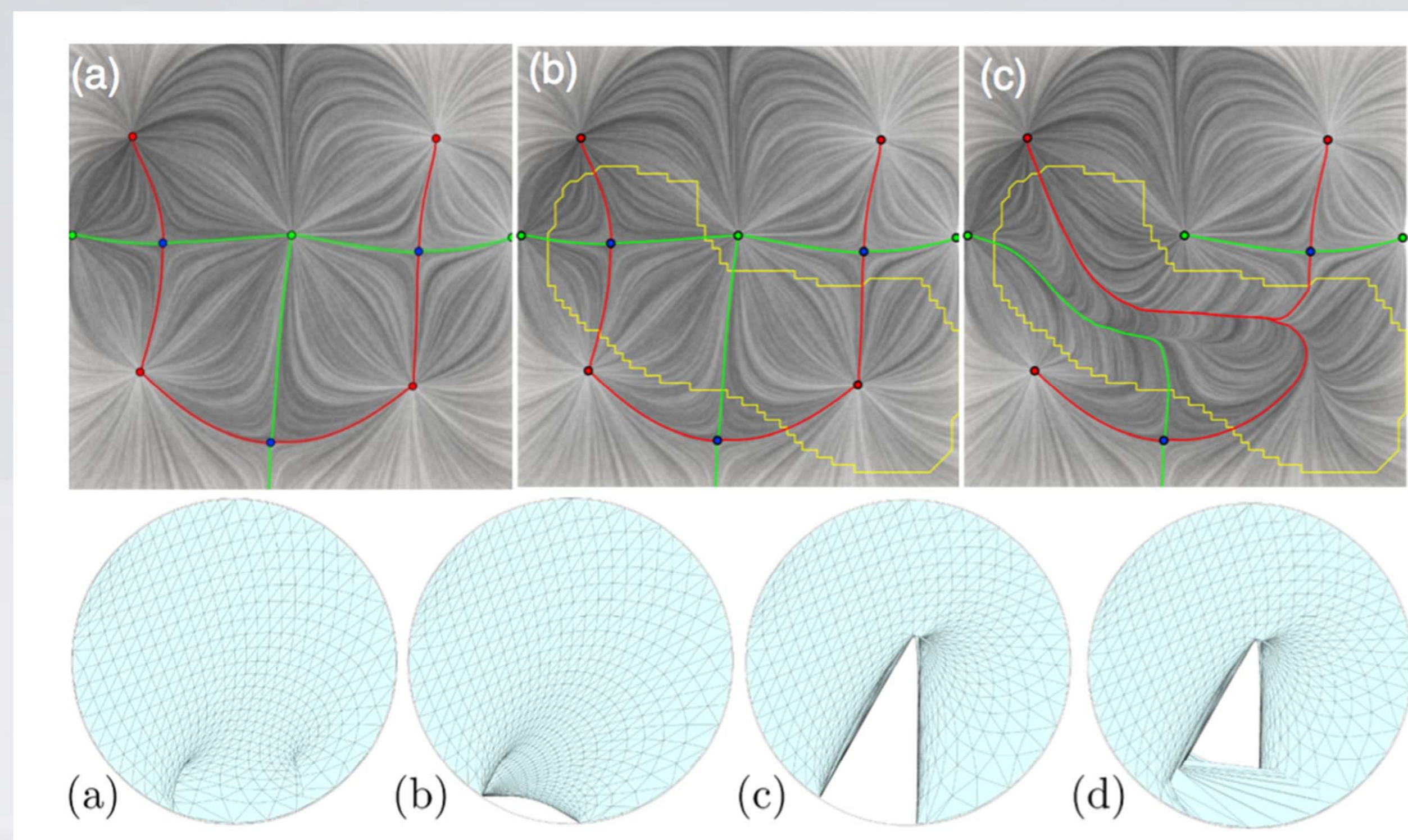
Bei Wang¹, Primoz Skraba², Paul Rosen³, Guoning Chen⁴, Harsh Bhatia⁵ and Valerio Pascucci¹

¹ University of Utah, ² Jozef Stefan Institute, ³ University of South Florida, ⁴ University of Huston, ⁵ LLNL



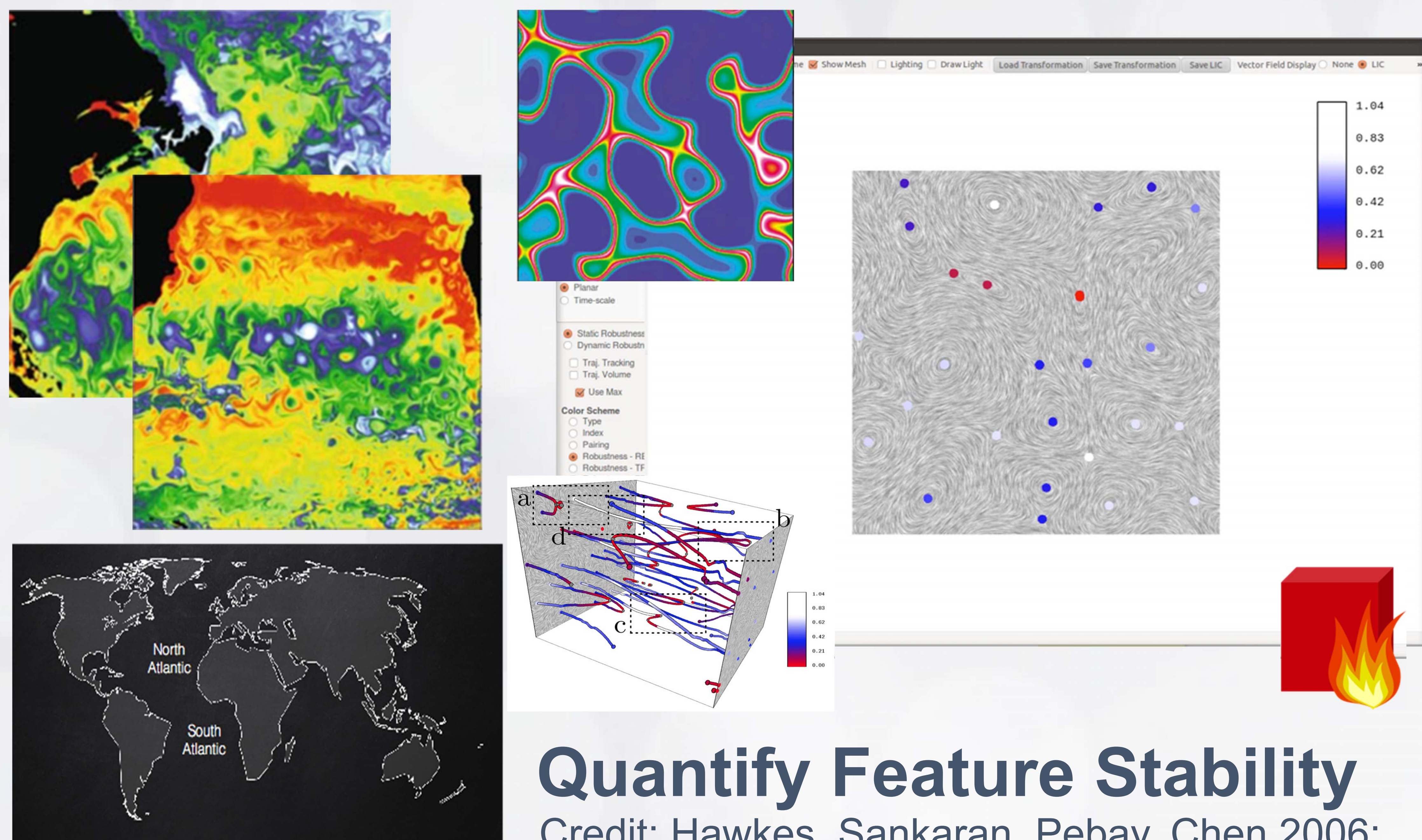
Goal

Increasing the interpretability of flow data by studying its **structural stability**.
Robustness of a critical point: minimum amount of perturbation required to cancel it from the vector field.



Vector Field Simplification: The Algorithm

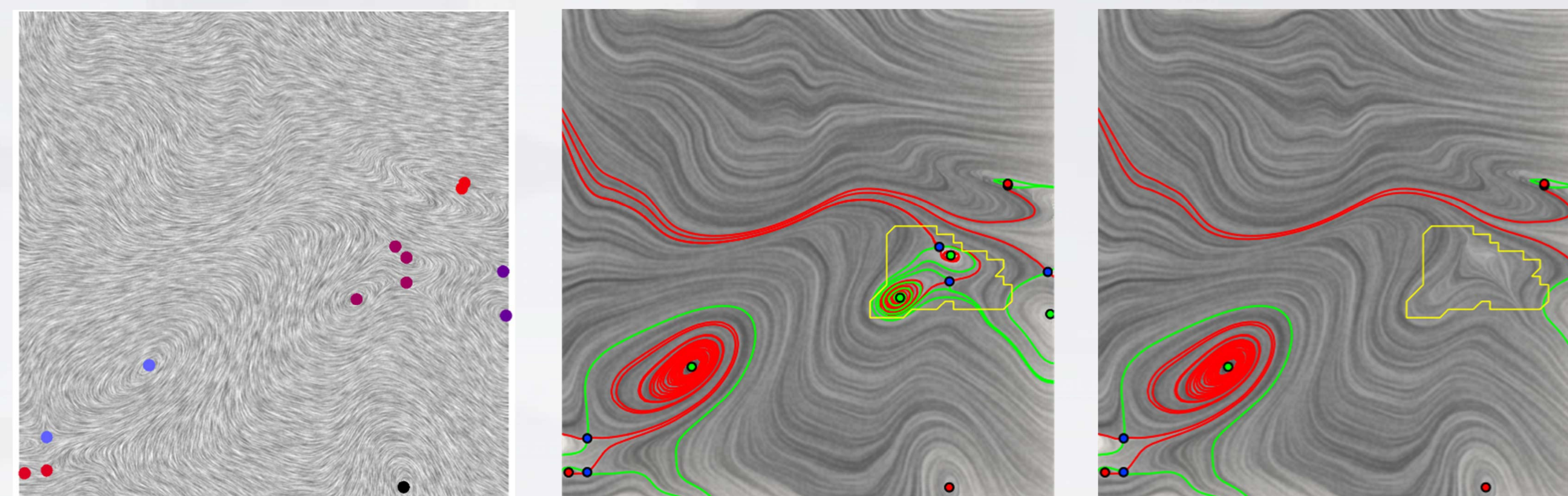
Combustion and Ocean Eddy Simulation



Quantify Feature Stability

Credit: Hawkes, Sankaran, Pebay, Chen 2006; Maltrud, Bryan, Peacock 2010

Separate Features from Noise at Multi-Scale



Understand Turbulent Flow

