

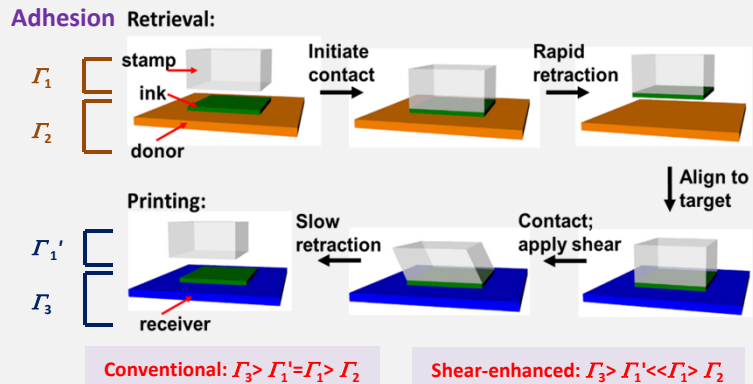


Uncertainty Quantification in Transfer Printing

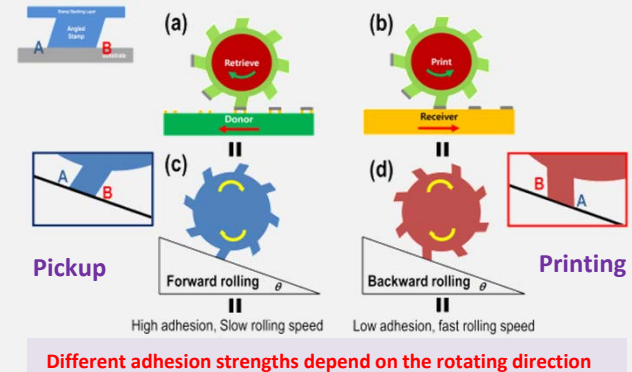
OBJECTIVE

Establish analytically the scaling law for shear-enhanced transfer printing
Optimize the design parameters in the process of transfer printing for stretchable and flexible electronics
Enable a **cost-effective** fabrication and pave the way for potential commercialization

Shear-Enhanced Transfer Printing

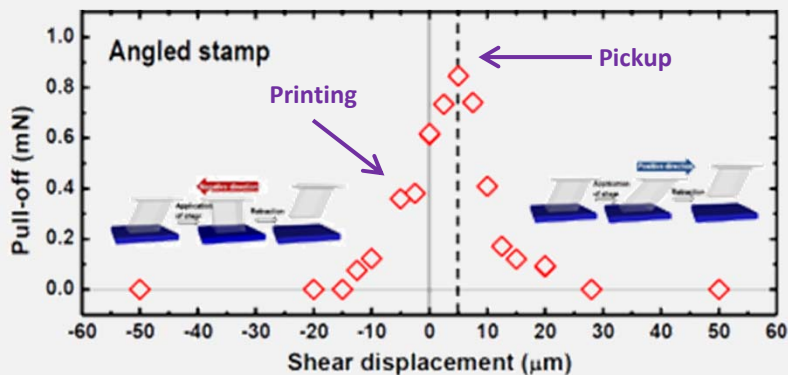


Continuous Roll-to-Roll Application



Design Problem in Roll-to-Roll Application

Design Objective: Maximum pull-off F_{max} , given post height h , width L
Design Variable: Inclined angle θ



Uncertainty Quantification & Optimization

Modular Bayesian Approach: $y^e(x) = y^m(x, \theta) + \delta(x) + \varepsilon$

