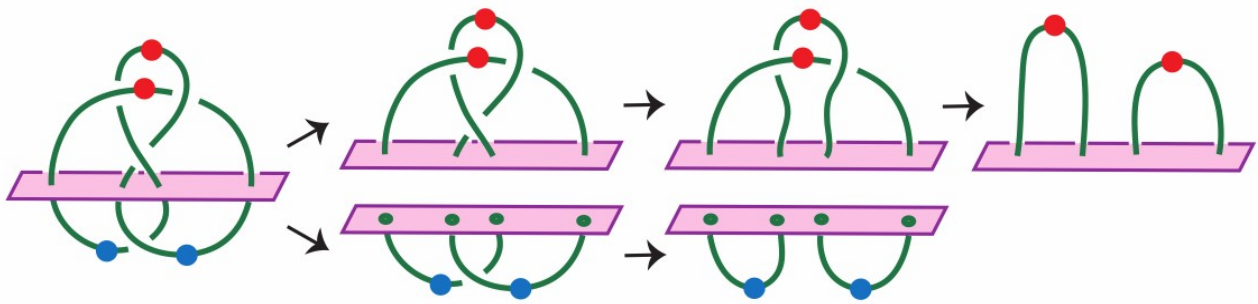


# Research on knots and 3-manifolds

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Bridge splitting

A knot is a simple closed curve embedded in the 3-sphere. I am interested in properties and invariants of knots. In particular, I have worked on spheres that separate maximal and minimal points of knots and the splittings (called bridge splittings) of knots by such spheres. Bridge splittings give a way to split knots into two simple parts, which is deeply related with the notion of Heegaard splittings of 3-manifolds. Also, certain complexity for bridge splittings and Heegaard splittings were introduced recently and it has been found out that the complexity reflexes properties of knots and 3-manifolds themselves as well. Some of my recent works are based on this point of view.

Keywords : Knots, bridge splittings, 3-manifolds, Heegaard splittings