

## Research Program

This year's research activities include the following plans.

- (1) A study of 4D universe
- (2) A study on knotting probability of a spatial arc.
- (3) A study on a stable-ribbon surface-link.
- (4) A new development on topological imitations of (3,1)-manifold pairs.
- (5) A study on complexities of a knitting pattern.
- (6) A further developing study on cross-index of a graph.
- (7) A study on the fundamental group of a ribbon 2-knot.
- (8) A study on an analytic function for an infinite family of graphs via Blaschke product.
- (9) A study on a password system applying knot theory.
- (10) A diffusion of an infant and elderly versions of the knot game "Region Select".