

## Research Program

The following researches are projected.

- (1) A study on knotting probability of a spatial arc.
- (2) A comprehensive study on topological imitations of  $(3,1)$ -manifold pairs.
- (3) Publishing the paper “Characteristic genera of closed orientable 3-manifolds”.
- (4) Publishing the paper (with Ikuo Tayama) “Representing 3-manifolds in the unit disk”.
- (5) Publishing the paper “A chord diagram for a ribbon surface-link”.
- (6) Publishing a book “Theory of Knots” in Japanese.
- (7) (with K. Kishimoto and A. Shimizu) A study on a password system applying knot theory.
- (8) Verification of an active effect of brain on an elderly version of the game “Region Select” applying knot theory.
- (9) A study on a complexity of knitting.
- (10) A study on “The fundamental group of a ribbon 2-knot”.