Algebraic Geomerty Seminar
(代数幾何学セミナー)

講演者: Nguyen Thi Ngoc Giao (Tokyo University of Science)
題目: On Symmetric Polynomials
日時: 2025 年 7 月 2 日 (水) 16:30 〜 17:30
　　　 2025 年 7 月 3 日 (木) 16:30 〜 17:30
場所: 野田キャンパス 4 号館 3 階数理科学科セミナー室

概要

Abstract: This talk explores some interesting results on special families of symmetric polynomials, including Schur polynomials and their generalizations, which are classical objects in Schubert Calculus. The talk is divided into two parts. The first part focuses on some properties of the Newton polytopes associated with these symmetric polynomials. The second part deals with the arithmetic circuit complexity of their tropicalizations. In particular, both the complexity of tropical Schur polynomials and that of tropicalizations of homogeneous symmetric polynomials dominated by Schur polynomials are well known. In future work, we aim to study the complexity of tropicalizations of non-homogeneous symmetric polynomials, which are linear combinations of Schur polynomials that satisfy certain conditions. We believe that understanding the Newton polytopes of these symmetric polynomials will provide valuable information for the study of their tropical complexity.