

Department of Mathematics, BGU

---

---

## Combinatorics Seminar

---

---

*On Tuesday, April 30 2019*

*At 13:00 – 14:00*

*In 101-*

Minki Kim (Technion)

will talk about

### **Rainbow independent sets in certain classes of graphs**

Abstract: Let  $\mathcal{F} = (F_1, \dots, F_m)$  be a collection of (not necessarily distinct) sets. A (partial) rainbow set for  $\mathcal{F}$  is a set of the form  $R = \{x_{i_1}, \dots, x_{i_k}\}$  of distinct elements, where  $1 \leq i_1 < \dots < i_k \leq m$  and  $x_{i_j}$  is an element of  $F_{i_j}$ . We are interested in the following question: given sufficiently many independent sets of size  $a$  in a graph belonging to a certain class, there exists a rainbow independent set of size  $b$ . In this talk, I will present our recent results on this question, mainly regarding  $H$ -(induced) free graphs and graphs of bounded maximum degree. This is joint work with Ron Aharoni, Joseph Briggs and Jinha Kim.