

---

**SUIL O**, State University of New York, Korea

*Average connectivity and average edge-connectivity in graphs*

Connectivity and edge-connectivity of a graph measure the difficulty of breaking the graph apart, but they are very much affected by local aspects like vertex degree. Average connectivity (and analogously, average edge-connectivity) has been introduced to give a more refined measure of the global “amount” of connectivity. In this talk, we prove a relationship between the average connectivity and the matching number in graphs. We also give the best lower bound for the average edge-connectivity over  $n$ -vertex connected cubic graphs. In addition, we show that this family has the fewest perfect matchings among cubic graphs that have perfect matchings.