1127-35-259   **L. Korobenko***, lyudmila@sas.upenn.edu, and **C. Rios**, **E. Sawyer** and **R. Shen**. *Sharp local boundedness in the infinitely degenerate regime via DeGiorgi iteration.*

I will talk about local boundedness and maximum principles for weak solutions to certain infinitely degenerate elliptic divergence form equations. We have previously shown local boundedness and continuity of weak solutions for certain classes of degeneracies in 2 and 3 dimensions, using Moser iteration scheme. Application of Moser iteration imposed a restriction on the type of degeneracy that is allowed. On the other hand, there is a counter example in three dimensions which shows that for very degenerate equations there exist unbounded week solutions. The boundedness result we obtained was not sharp, and it was not known if weak solutions are bounded for a big class of degeneracies, which we called a "Moser gap". Using the truncation method of DeGiorgi iteration we prove local boundedness in the gap left open by Moser iteration. This result is therefore sharp in dimensions $n \geq 3$. (Received February 05, 2017)