The SUMO Speaker Series for Undergraduates

(food from Pizza Chicago)
Wednesday, February 24
4:40-5:30, room 380C

Every integer > 1 is a sum of at most a million primes

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Abstract: The famous Goldbach conjecture states that every even positive integer is a sum of two primes, and as a consequence every integer > 1 is a sum of at most three primes. Faced with the lack of any definite result, back in the 30's it was a challenge to even prove the existence of a constant C > 0 such that any integer > 1 is a sum of at most C primes. The challenge was taken up by a young Russian mathematician, Schnirelman, who succeeded in establishing the existence of C > 0. In this talk I will describe Schnirelman's proof, and obtain an explicit estimate for C > 0.

There are almost no prerequisites. In the words of the famous analytic number theorist Landau: "[this proof] contains some of the most significant achievements in the number theory that I was privileged to witness in my lifetime [...] It could have appeared one hundred years ago and can be understood by a reader without the knowledge of the differential and integral calculus, not to mention the theory of complex variables".

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