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Isabella Novik* (novik@math.washington.edu), Department of Mathematics, University of Washington, Box 354350, Seattle, WA 98195-4350, and **Edward B Swartz** (ebs@math.cornell.edu), Department of Mathematics, Cornell University, Ithaca, NY 14853-4201. *Face numbers of simplicial manifolds.*

We discuss a few very recent theorems on the face numbers of a simplicial complex whose geometric realization is a manifold. Among our results are the proof of the Kühnel conjecture for the maximum value of the Euler characteristic of even-dimensional simplicial manifolds, and the proof of Kalai's conjecture for the lower bound on the number of edges of simplicial manifolds. A key ingredient in the proofs is a new commutative algebra result on graded Buchsbaum modules. (Received August 06, 2007)