Some Suggestions for Presentations

- 1. Other proofs of Euler's relation for 3-polytopes, in Cromwell's book [Cro97].
- 2. Polytopes are nonextendably shellable, in Ziegler's book [Zie95].
- 3. Alon and Kalai's proof of the Upper Bound Theorem using exterior algebra [AK85].
- 4. Kalai's proof that the graph of a simple polytope determines its face lattice, in Ziegler's book [Zie95].
- 5. Barnette's proof of the lower bound theorem, in Brøndsted's book [Brø83].
- 6. Cauchy's proof of rigidity in Cromwell's book [Cro97].
- 7. One of the papers by Jon Lee in which he uses volume to assess goodness of polytopal approximation [KLS97, LM94].
- 8. Senechal's extension of Coxeter's classification of finite symmetry groups of a sphere [Sen90].
- 9. One of the papers by Jim Lawrence on Euler's relation and valuations [Law91, Law97].
- 10. Clarkson's proof of Upper Bound Theorem [Cla93].
- 11. My paper on some approaches to the Generalized Lower Bound Conjecture [Lee91].
- 12. One of the papers on projections of f-vectors of 4-polytopes. See, for example, [Bar74] (and I think this paper may provide references to others).

References

[AK85] Noga Alon and G. Kalai. A simple proof of the upper bound theorem. *European J. Combin.*, 6(3):211–214, 1985.

- [Bar74] David W. Barnette. The projection of the f-vectors of 4-polytopes onto the (E,S)-plane. Discrete Math., 10:201–216, 1974.
- [Brø83] Arne Brøndsted. An introduction to convex polytopes. Springer-Verlag, New York, 1983.
- [Cla93] Kenneth L. Clarkson. A bound on local minima of arrangements that implies the upper bound theorem. *Discrete Comput. Geom.*, 10(4):427–433, 1993.
- [Cro97] Peter R. Cromwell. *Polyhedra*. Cambridge University Press, Cambridge, 1997. "One of the most charming chapters of geometry".
- [KLS97] Chun-Wa Ko, Jon Lee, and Einar Steingrímsson. The volume of relaxed Boolean-quadric and cut polytopes. *Discrete Math.*, 163(1-3):293–298, 1997.
- [Law91] Jim F. Lawrence. Rational-function-valued valuations on polyhedra. In Discrete and computational geometry (New Brunswick, NJ, 1989/1990), pages 199–208. Amer. Math. Soc., Providence, RI, 1991.
- [Law97] Jim F. Lawrence. A short proof of Euler's relation for convex polytopes. Canad. Math. Bull., 40(4):471–474, 1997.
- [Lee91] Carl W. Lee. Winding numbers and the generalized lowerbound conjecture. In Discrete and computational geometry (New Brunswick, NJ, 1989/1990), pages 209–219. Amer. Math. Soc., Providence, RI, 1991.
- [LM94] Jon Lee and Walter D. Morris, Jr. Geometric comparison of combinatorial polytopes. Discrete Appl. Math., 55(2):163–182, 1994.
- [Sen90] Marjorie Senechal. Finding the finite groups of symmetries of the sphere. *Amer. Math. Monthly*, 97(4):329–335, 1990.
- [Zie95] Günter M. Ziegler. Lectures on polytopes. Springer-Verlag, New York, 1995.