



Making Beautiful Mathematics

Mathematics and music, subjects that some people perceive as opposites, are creative and vibrant endeavors concerned with beauty and elegance. That may be hard to believe about math, but in fact mathematicians are motivated to search for beautiful results supported by elegant proofs, and their journey towards this goal frequently involves a good deal of improvisation. Or, as mathematician and jazz musician Rob Schneiderman says: “Every day, musicians and mathematicians are bringing new music and mathematics into the world. Mathematical research frequently involves mathematicians working together engaged in thematic development, dealing with mistakes, taking tangential explorations, exchanging lead and accompaniment roles in real time, and spontaneously generating constructive thoughts. All these dynamics occur as well in a small group jazz performance.

“Mathematics and (nonlyric) music both have incredibly strong intrinsic abstract meaning and are able to communicate complex ideas and create beautiful structures through logic and sound. I find it fascinating that despite these similarities, the appreciation of music is freely accessible to all listeners without any technical knowledge,

whereas the extent of appreciation of mathematics one can enjoy depends strongly on the extent to which one ‘is a mathematician.’ So mathematics is like *music that only musicians can hear.*” Our advice: Take the time to stop and hear the mathematics.

For More Information: “Jazz Duo Explores the Intersection of Math and Music,” David R. Adler, *Flagpole*, March 27, 2019.

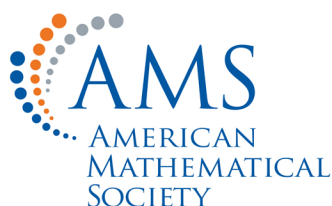


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