

**What is new in “The New Mathematical Coloring Book”?**  
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In 2009, “The Mathematical Coloring Book” premiered at this conference and became one of the standard texts on Ramsey Theory. Fifteen years that followed, witnessed solutions of some of the open problems posed in that book, including, Geoffrey Exoo and Dan Ismailescu’s discovery of the unit-distance triangle-free graph of the smallest order.

In 2018. Aubrey de Grey, a Cambridge-educated biologist, achieves the first breakthrough in the problem of finding chromatic number of the plane by constructing the first ever 5-chromatic unit-distance graph. He is followed by the virtuoso Dutch American computer scientist Marijn Heule, an Invited Speaker at this Conference, who substantially reduces the order of the smallest 5-chromatic unit-distance graph. The Russian microchip designer Jaan Parts further reduces the size of the smallest known 5-chromatic unit-distance graph. Active research on 6-chromatic graphs with two forbidden distances commences.

All this inspired my writing of “The New Mathematical Coloring Book: Mathematics of Coloring and the Colorful Life of Its Creators,” which is ca. 900 oversized pages. It includes new open problems and conjectures, designed to direct further research. This book should appear in Springer, New York, at about the time of this Conference.

Keywords: Ramsey Theory, Chromatic number of the plane, unit-distance graphs