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**Kenneth Stephenson\*** ([kstephe2@tennessee.edu](mailto:kstephe2@tennessee.edu)), Ayres Hall, Univ. of Tennessee, Knoxville, TN 37996. *Configurations of circles: beyond packings.*

We survey the study of configurations of circles inspired by Bill Thurston's circle packings. Inversive distance packings involve configurations with prescribed overlaps, tangencies, and/or separations of the circles. Their study provides an intriguing mash up of theory, computation, experimentation, and application. We discuss existence, rigidity, and notions of discrete conformality, with an emphasis on concrete examples and emerging applications. (Received January 17, 2017)