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**Glen R Van Brummelen\*** (gvb@questu.ca), Box 760, Garibaldi Highlands, BC V0N 1T0, Canada. *A Different Sort of Sacred Geometry: The Medieval Analemma for Finding the Direction of Mecca.*

The direction toward which Muslim faithful must face for prayer, the qibla, garnered a great deal of attention from medieval astronomers. But, of course, the mathematical astronomy they inherited from India and Greece did not instantly provide a solution. One approach, attributed to one of the earliest and greatest Muslim scientists Habash al-Hasib, solved the problem geometrically, borrowing from the Greek tradition of the analemma. This technique, a clever reduction of the problem from three dimensions to two using several rotations within the celestial sphere, would be transformed into a popular trigonometric tool that may be thought of as a sequence of coordinate transformations on the celestial sphere. We will survey the relevant history, and emphasize the beautiful mathematics of this and related methods. (Received September 10, 2007)