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A tissue-specific transcriptional program instructs remodelling of the mature arterial tree

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Abstract
Connection of the heart to the systemic circulation is a critical developmental event that requires selective preservation of embryonic vessels (aortic arches). Abnormalities in this process result in congenital heart disease. Using microdissection and deep sequencing in mouse embryos, we identify the transcriptional mechanisms that promote the incorporation of some of the aortic arches into the mature aortic tree, opposite to others, which regress. Finally, we catalogue the functional non-coding regions of the human genome involved in this process, and whose genetic variants may lead to congenital heart disorders.

Biosketch
Nicoletta Bobola is Professor of Developmental Biology and Genomics at the University of Manchester. She received her PhD at the University of Genoa, Italy, and started her first independent group at the Max Planck Institute of Immunobiology in Freiburg, Germany. She joined the University of Manchester in 2006.