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**Jerry L. Bona\*** ([bona@math.uic.edu](mailto:bona@math.uic.edu)), Dept. Math. Statistics & Computer Science, University of Illinois at Chicago, 851 S. Morgan Street MC 249, Chicago, IL 60607. *A Simple Model for Arterial Blood Flow*. Preliminary report.

We introduce a model for the flow of blood in the arterial system. This model, developed by Cascaval, Hernandez, Hsia and the author, is comprised of a coupled system of nonlinear, partial differential equations posed on a tree-like structure. After introducing analysis leading to the conclusion that the system is well posed, numerical simulations are presented indicating that the model has some macroscopic predictive power. (Received September 21, 2011)