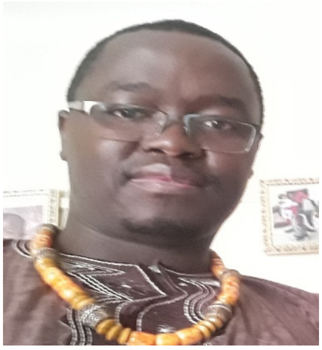

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Educational Curriculum	August 2007-December 2010, Ph.D. Student School of Mathematical Sciences, University of KwaZulu-Natal, Pietermaritzburg, South Africa. August 2006-June 2007, Post Graduate Diploma in Mathematical Sciences, African Institute for Mathematical Sciences (AIMS), Cape Town, South Africa. (Diploma awarded by the University of Western Cape, Cape Town, South Africa.) September 2003-October 2005, M.Sc. With Thesis (Numerical Analysis) University of Yaounde I, Yaounde, Cameroon. September 2001-September 2002, B.Sc. (Mathematics) University of Yaounde I, Yaounde, Cameroon.
Professional Experience	2012-Present, Lecturer at the University of KwaZulu-natal, South Africa.
Current research interest	- Conservation laws models in Networks - Optimal control and differential games, optimization. - Numerical analysis of Stochastic partial differential equations
Research methods	- Existence and Uniqueness, numerical simulations
Publications	M. K. Banda, M. Herty, J.M.T. Ngnotchouye. On Linearized coupling conditions for a class of isentropic multiphase drift-flux models at pipe-to-pipe intersections. Journal of Computational and Applied Mathematics, vol. 276, pp.81-97, 2015. M. K. Banda, M. Herty, J.M.T. Ngnotchouye. Coupling the drift-flux models with unequal sonic speeds. Mathematical and Computational Applications, Vol. 15, No. 4, pp. 574–584, 2010 M. K. Banda, M. Herty and J.M.T. Ngnotchouye. Toward a Mathematical Analysis of the Multiphase Drift-Flux Model in Networks. SIAM J. Sci. Comp.Vol. 31, No. 6, pp. 4633–4653, 2010

Title of the talk: Multiphase flow models in a network of pipes

Abstract of the talk (10 lines):

This talk deals with various coupling conditions at a junction of a network of connected pipes in which the flow is governed by a multiphase flow model. Each phase of the fluid is assumed to be isentropic with its own sonic speed. For the simulations of the flow for the whole network, one needs to impose some coupling conditions that link the flows at the junction of intersecting pipes. These coupling conditions play a key role in the proof of the well-posedness of the Riemann problem at the junction, which consist of solving the flow equations in each pipe with constant initial conditions in each pipe. We prove the well-posedness of the Riemann problem at the junction using a linearized version of the Lax curves and we simulate the flow for a small network of five pipes and two junctions.