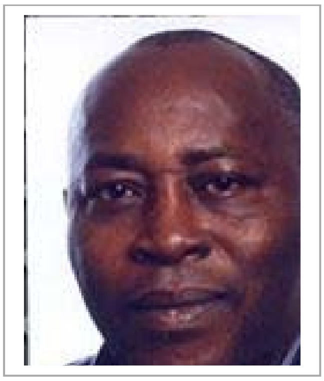

Pr. Dikande Alain Moise
Head of Physics Department, Faculty of Science,
University of Buea, Cameroon

dikande.alain@ubuea.cm

Group leader, Laboratory of Research on Advanced Materials and Nonlinear Science (Laramans): http://laramans.blogspot.com/

Educational Curriculum	- 1993 Doctorat 3ieme cycle in Nonlinear Science, University of Yaounde I, Yaounde, Cameroon -2004 PhD in Computational condensed matter Physics University of Sherbrooke, Quebec Canada.
Professional Experience	1994 to 2000: permanent staff, University of Douala, Camaeroon 2000 to 2004: Associate Scientist (cumulatively with PhD studentship), University of Sherbrooke, Canada. 2012-2015: Alexander von Humboldt Stiftung ("Experienced Researchers" Category), University of Bonn and Max Planck Institute for the Physics of Complex Systems (MPIPKS), Dresden.
Current research interest	- Dynamics and statistical mechanics of nonlinear complex systems - Quantum Phase transitions in exotic 1D materials - Nonlinear Quantum optics and optical-soliton theory - Exactly integrable discrete neworks
Research methods	- Analytical and numerical approaches, exact methods for nonlinear partial differential equations, non-pertubative appraoches to quantum phase transitions in low-dimensional electron-phonon systems, numerical simulations of complex nonlinear processes
Publications	A. M. Dikande and T. C. Kofane, Physica D 83, p. 450 (1995) A. M. Dikande and E. Njumbe Epie, Physic Scripta 81, p. 055002 (2010) E. Epie Njumbe, A. M. Dikande and T. C. Kofane, Physics Letters A 372, p. 6890 (2008)

Title of the talk: Seismicity of a mechanical model of Earthquake fault with compteting nonlinear elastic and frictional forces

Abstract: Instabilities caused by the stick-slip motion of contact tectonic plates are believed to be responsible for seismic faults favoring the release and propagation of stress accumulated within the plates. As a mechanical process the fault generation can be described by the so-called Burridge-Knopoff (BK) model, consisting of an elastic lithosphere overlying a viscous asthenosphere and a fault of finite width with an upper brittle (i.e. seismic) zone having an elastoplastic response. Mathematically

the BK model assumes a periodic network of linearly interacting equal-mass blocks forming the asthenosphere, each block coupled to the upper plate (i.e. the lithosphere) via linear springs and a nonlinear frictional force between the two plates. In this talk we shall discuss the effects of competing elastic and frictional anharmonicities on seismicity of the BK model.