

**Research Articles 2016:**

**Alkahtani, B. & Atangana, A.** 2016. A new nonlinear triadic model of predator—prey based on derivative with non-local and non-singular kernel. *Advances in Mechanical Engineering* 8(11): 1-9.

**Alkahtani, B. & Atangana, A.** 2016. Analysis of non-homogeneous heat model with new trend of derivative with fractional order. *Chaos Solitons & Fractals* 89: 566-571.

**Alkahtani, B. & Atangana, A.** 2016. Chaos on the Vallis Model for El Niño with Fractional Operators. *Entropy* 18: 2-7.

**Alkahtani, B. & Atangana, A.** 2016. Controlling the wave movement on the surface of shallow water with the Caputo–Fabrizio derivative with fractional order. *Chaos Solitons & Fractals* 89: 539-546.

**Alkahtani, B. & Atangana, A.** 2016. Modeling the potential energy field caused by mass density distribution with Eton approach. *Open Physics* 14: 106-113.

**Alkahtani, B., Atangana, A. & Koca, I.** 2016. Huge analysis of Hepatitis C model within the scope of fractional calculus. *Journal of Nonlinear Sciences and Applications* 9: 6195-6203.

**Alkahtani, B., Koca, I. & Atangana, A.** 2016. A novel approach of variable order derivative: Theory and Methods. *Journal of Nonlinear Sciences and Applications* 9: 4867-4876.

**Atangana, A.** 2016. On the new fractional derivative and application to nonlinear Fisher's reaction-diffusion equation. *Applied Mathematics and Computation* 273: 948-956.

**Atangana, A.** 2016. Derivative with two fractional orders: A new avenue of investigation toward revolution in fractional calculus. *European Physical Journal Plus* 131: 1-9.

**Atangana, A.** 2016. Exact solution of the time-fractional groundwater flow equation within a leaky aquifer equation. *Journal of Vibration and Control* 22(7): 1749-1756.

**Atangana, A.** 2016. On the stability of iteration methods for special solution of time-fractional generalized nonlinear ZK-BBM equation. *Journal of Vibration and Control* 22(7): 1769-1776.

**Atangana, A. & Alqahtani, R.** 2016. A novel double integral transform and its applications. *Journal of Nonlinear Sciences and Applications* 9(2): 424-434.

**Atangana, A. & Alqahtani, R.** 2016. Modeling the spread of Rubella disease using the concept of with local derivative with fractional parameter. *Complexity* 21(6): 442-451.

**Atangana, A. & Alqahtani, R.** 2016. Modelling the spread of river blindness disease via the caputo fractional derivative and the beta-derivative. *Entropy* 18(40): 1-18.

**Atangana, A. & Alqahtani, R.** 2016. New model of groundwater flowing within a confine aquifer: Application of Caputo-Fabrizio derivative. *Arabian Journal of Geosciences* 9(8): 1-6.

**Atangana, A. & Alqahtani, R.** 2016. Numerical approximation of the space-time Caputo-Fabrizio fractional derivative and application to groundwater pollution equation. *Advances in Difference Equations* 156: 1-13.

**Atangana, A. & Alqahtani, R.** 2016. Stability analysis of nonlinear thin viscous fluid sheet flow equation with local fractional variable order derivative. *Journal of Computational and Theoretical Nanoscience* 13(5): 2710-2717.

**Atangana, A. & Koca, I.** 2016. Chaos in a simple nonlinear system with Atangana–Baleanu derivatives with fractional order. *Chaos Solitons & Fractals* 89: 447-454.

**Atangana, A. & Koca, I.** 2016. On the new fractional derivative and application to nonlinear Baggs and Freedman model. *Journal of Nonlinear Sciences and Applications* 9: 2467-2480.

**Atangana, A. & Ünlü, C.** 2016. New groundwater flow equation with its exact solution. *Scientia Iranica* 23(4): 1837-1843.

**Atangana, A. & Baleanu, D.** 2016. New fractional derivatives with non-local and non-singular kernel. Theory and application to heat transfer model *Thermal Science* 20(2): 763-769.

**Atangana, A., Baleanu, D. & Alsaedi, A.** 2016. Analysis of time-fractional Hunter-Saxton equation: A model of neumatic liquid crystal. *Open Physics* 14: 145-149.

**Baskonus, H., Bulut, H. & Atangana, A.** 2016. On the complex and hyperbolic structures of the longitudinal wave equation in a magneto-electro-elastic circular rod. *Smart Materials and Structures* 25(3): 1-8.

**Fourie, F.D.** 2016. Estimating the decant rate from a rehabilitated opencast colliery using a water balance approach. *Mine Water and the Environment* 35: 1-17.

**Gomo, M. & Masemola, E.** 2016. Groundwater hydrogeochemical characteristics in rehabilitated coalmine spoils. *Journal of African Earth Sciences* 116: 114-116.

**Goufo, E. & Atangana, A.** 2016. Analytical and numerical schemes for a derivative with filtering property and no singular kernel with applications to diffusion. *European Physical Journal Plus* 131: 269.

**Oke, S.A., Vermeulen, P.D. & Gomo, M.** 2016. Aquifer vulnerability assessment of the Dahomey Basin using the RTt method. *Environmental Earth Sciences* 75: 1-9.

**Owolabi, K.M. & Atangana, A.** 2016. Numerical solution of fractional-in-space nonlinear Schrödinger equation with the Reisz fractional derivative. *European Physical Journal Plus* 131: 1-15.

**Wang, S., Du, S., Atangana, A., Liu, A. & Lu, Z.** 2016. Application of stationary wavelet entropy in pathological brain detection. *Multimedia Tools and Applications*: 1-14.

## Book

**Atangana, A.** 2016. *Derivative with a new parameter: Theory, methods and applications*. Cambridge, US: Academic Press.

## Chapter in Book

**Esterhuysen, S., De Lange, S.S. & Glazewski, J.** 2016. Hydraulic fracturing in the Karoo: Critical legal and environmental perspectives. In *Potential impact of unconventional oil and gas extraction on Karoo aquifers* edited by J. Glazewski and S. Esterhuysen. Pretoria: Juta & Company. pp. 206-221

## Conference Contributions

**Oke, S.A., & Vermeulen, D.** 2016. *Petrology and lithochemical characteristics of Basement rocks of Southwestern Nigeria: implications for weathering induced metal release and redistributions in soils*. Paper delivered at the 36<sup>th</sup> International Geological Congress, Cape Town, South Africa. 27 August – 4 September 2016.

**Oke, S.A., & Vermeulen, D.** 2016. *Comparison of four Vulnerability Approaches to Mapping of Shallow Aquifers of Eastern Dahomey Basin of Nigeria*. Paper delivered at The European Geosciences Union General Assembly (EGU) Conference, Vienna, Austria. 17 – 22 April 2016.

**Sakala, E., Fourie, F., Gomo, M., Coetzee, H., & Magadza, L.** *Specific Groundwater Vulnerability Mapping: Case Study of Acid Mine Drainage in the Witbank Coalfield, South Africa*. Paper delivered at the Sixth IASTED International Conference, Environment and Water Resource Management (Africa EWRM 2016), Gaborone, Botswana 5 – 7 September 2016.

**Gomez-Arias, A., Castillo, J., Van Heerden, E., & Vermeulen, D.** *Use of alkaline mine waste as treatment for acid drainage*. Paper delivered at The 2016 Annual Conference on International Mine Water Association (IMWA), Leipzig, Germany. 11 – 15 July 2016.

**Johnstone, A., Kriel, D. & Vermeulen, D.** *Ghaghoo Mine Dewatering and Injection of Excess Water*. Paper delivered at The 2016 Annual Conference on International Mine Water Association (IMWA), Leipzig, Germany. 11 – 15 July 2016.

**Lourens, P., Vermeulen, D., Fourie, F., & Haumann, J.** *Impact of Fertilizer Effluent Disposed in Dolerite Quarries on the Groundwater Quality*. Paper delivered at The 2016 Annual Conference on International Mine Water Association (IMWA), Leipzig, Germany. 11 – 15 July 2016.

**Zielke-Olivier, J. & Vermeulen, D.** *Fine Ash Leaching in Tailings Dams – An Impact on the Underlying Aquifers?* Paper delivered at The 2016 Annual Conference on International Mine Water Association (IMWA), Leipzig, Germany. 11 – 15 July 2016.