

**REMEMBERING HIS LAND MARKS**  
**PROFESSOR REUBEN OLAFENWA AYENI (1948 - 2012)**

It is with profound sorrow that we note the passing on of Professor R. O. Ayeni on 30th September 2012 at the age of 64, approximating 3 days before the conference of the Nigerian Mathematical Society held at the Ahmadu Bello University, Zaria, Kaduna State, Nigeria.

Ayeni received his Ph.D. from the Cornell University, Ithaca, New York, USA in 1978 under Late Prof. G. S. S. Ludford. The title of his dissertation was "Thermal Runaway". He joined Obafemi Awolowo University (OAU), Ile - Ife, Nigeria formerly University of Ife in 1979 and moved on to Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, Nigeria in 1990 and remained there until his death. He lectured and wrote many articles in these universities. He also lectured at Federal University of Technology (FUTA), Akure, Nigeria, Olabisi Onabanjo University (OOU), Ago - Iwoye, Nigeria, Tai Solarin University of Education (TASUED), Ijebu - Ode, Nigeria, Adeyemi College of Education (ACE), Ondo, Nigeria, and National Mathematical Centre, Abuja, FCT, Nigeria.

Prof. R. O. Ayeni has wives and five children: 'Bode, lecturer of Mathematics; 'Lanre, an army personnel and a staff of GlobaCom ; Titi, a medical doctor; Kunle, a postgraduate student; and Funso, a secondary school student. He is also survived by grand children.

On behalf of the Doctoral and Masters' graduates of Professor R. O. Ayeni, his colleagues, friends, co-workers and the nationwide fluid dynamics community, we offer our condolences to his family. We will all miss him and we pay him due homage for all his achievements. To this end, memorial prizes were instituted in six (6) Nigerian Universities - ACE, FUTA, TASUED, LAUTECH, OAU and OOU where he left foot prints.

This compilation of information about R. O. Ayeni was greatly aided and supported by many, who are too numerous to be mentioned. This I gratefully acknowledge with profound respect.

Professor Samuel Segun OKOYA  
First Doctoral Graduate,  
For and on behalf of Committee of Doctoral & Masters' Graduates  
and Students of Late Prof. R. O. Ayeni (Ayenites)

## Some Key Events in the Life of Prof. R. O. Ayeni

- 1948 Born on 9<sup>th</sup> June at Owode-Ketu, Yewa Land, Ogun State, Nigeria
- 1960 Completed the First School Leaving Certificate
- 1962 Secured Egbado North Local Government Council Scholarship
- 1965 Obtained West African School Certificate (WASC)
- 1966 Secured the Federal Government of Nigeria Scholarship for NCE
- 1969 Obtained Nigerian Certificate in Education (NCE), University of Lagos, Nigeria
- 1970 Granted Federal Government of Nigeria Scholarship for B.Sc. degree
- 1973 Bagged a Bachelor's degree in Mathematics at University of Ife, now Obafemi Awolowo University (OAU), Nigeria
- 1974 Received the Western State of Nigeria Scholarship for post-graduate studies
- 1977 Bagged a Master's degree in Mathematics at the Cornell University, USA
- 1978 Bagged a Doctoral degree in Mathematics at the Cornell University, USA
- 1979 Started lecturing at the University of Ife, now Obafemi Awolowo University, Ile-Ife, Nigeria
- 1980 Married Olajumoke Adeoye
- 1982 Publication of "On the Explosion of Chain thermal Reactions" and "On the thermal Runaway of variable Viscosity Flows between Concentric Cylinders"
- 1983 Appointed as the Acting Head of Department, Mathematics, OAU; Published an article titled: "On the Blow up Problem for Semi-linear Heat equations"
- 1984 Yoruba Obas conferred him the Odofin of Ketu land.
- 1985 Organized a month Autumn school under the auspices of CIMPA; Published an article titled: "On the Temperature of Radial Bearings 1"
- 1988 Published an article titled: "On the Dissipation Layer of radial Bearings"
- 1990 Moved to Ladoke Akintola University of Technology as a foundation Professor; appointed pioneer Head and Dean of Students' Affairs, LAUTECH
- 1991 Became a UNESCO fellowship member for fundamental of computer science, CISM, Italy

- 1992 Adjunct/Visiting Professor for postgraduate studies at FUTA  
 1994 Granted UNESCO fellowship to attend Fluid Mechanics at ICTP, Italy  
 2000 Awarded the Fellow of Academy of controls (FAC)  
 2000 Elected as Dean, Faculty of Pure and Applied Sciences, LAUTECH, Nigeria  
 2002 Elected as President, Mathematical Association of Nigeria (MAN)  
 2003 Elected as Chairman, Committee of Deans, LAUTECH  
 2002 Elected as Vice-President, Nigerian Mathematical Society  
 2005 Awarded the Fellow of Mathematical Association of Nigeria (FMAN)  
 2006 Elected as President, Nigerian Mathematical Society  
 2006 Elected as President, Nigerian Association of Mathematical Physics; Associate Visiting Professor to OOU  
 2006 Became a member of American Mathematical Society  
 2007 Became an Associate Visiting Professor to TASUED  
 2008 Thirty years of Academic Excellence and 60th birthday celebration was organized by the Committee of Doctoral and Masters' graduate and students in honour of the late Prof. (Chief) R. O. Ayeni  
 2012 Delivered his inaugural lecture at LAUTECH and died 10 days later on 30th September at LAUTECH Teaching Hospital, Ogbomoso, Nigeria.

**28 doctoral graduates of Prof. R. O. Ayeni with the University Awards:**

- 1989 Prof Samuel Segun Okoya, OAU, Nigeria  
 1995 Prof Olubode Kolade Koriko, FUTA, Nigeria  
 1997 Dr. Emmanuel Adewunmi Adebiyi, OAU, Nigeria  
 2003 Dr. Felix Ilesanmi Alao, FUTA, Nigeria  
 2005 Dr. Oladapo P. Olanrewaju, LAUTECH, Nigeria  
 2005 Dr. Bakai Ishola Olajuwon, LAUTECH, Nigeria  
 2005 Dr. Amos Wale Ogunsola, LAUTECH, Nigeria  
 2005 Dr. Adelani Olatunde Adesanya, LAUTECH, Nigeria  
 2005 Dr. Stephen Olatunde Olabiyisi, LAUTECH, Nigeria  
 2006 Dr. Elijah O. Omidiola, LAUTECH, Nigeria  
 2007 Dr. (Mrs.) Temitayo Olabisi Oluyo, LAUTECH, Nigeria  
 2007 Dr. Amos Oladele Popoola, LAUTECH, Nigeria

- 2007 Dr. Sunday Oluyemi, LAUTECH, Nigeria  
 2007 Dr. Akindele Michael Okedoye, LAUTECH, Nigeria  
 2008 Dr. Sunday Olumuyiwa Adewale, LAUTECH, Nigeria  
 2008 Dr. Kolawole Sunday Adegbie, LAUTECH, Nigeria  
 2010 Dr. Olugbenga John Fenuga, LAUTECH, Nigeria  
 2010 Dr. Abigail Bola Adetunji, LAUTECH, Nigeria  
 2010 Dr. Olusegun Adebayo Ajala, LAUTECH, Nigeria  
 2010 Dr. Mary Oziohu Durojaye, LAUTECH, Nigeria  
 2011 Dr. Zacheaus Olusegun Ogunwobi, LAUTECH, Nigeria  
 2011 Dr. Rashaq Oyeyemi Olaiwola, LAUTECH, Nigeria  
 2011 Dr. A. J. Omowaye, LAUTECH, Nigeria  
 2012 Dr. (Mrs.) Latifat Morenikeji Erinle, LAUTECH, Nigeria  
 2012 Dr. Olaseni Taiwo Amumeji, LAUTECH, Nigeria  
 2012 Dr. Folorunso Ojo Balogun, LAUTECH, Nigeria  
 2012 Dr. Olukayode Adebimpe, LAUTECH Nigeria  
 2012 Dr. Olumide Samuel Adesanya, LAUTECH, Nigeria

## REFERENCES

- [1] R. O. Ayeni and G. S. S. Ludford, *Non-existence of Global solutions of the boundary value problem of the parabolic type.* Nigerian Journal of Mathematical Science (1982), 1 - 3.
- [2] R. O. Ayeni and G. S. S. Ludford, *On the Uniqueness of Positive solution of non-linear elliptic boundary Value problem.* Nigerian Journal of Mathematical Science (1982) 4 - 5.
- [3] R. O. Ayeni, *On the Explosion of Chain thermal Reactions.* Journal Australian Mathematics Society (1982) 194 - 202.
- [4] R. O. Ayeni, *On the thermal Runaway of variable viscosity Flows Between Concentric Cylinders.* ZAMP (1982) 408 - 412.
- [5] R. O. Ayeni, *On the Blow up Problem for Semi-linear Heat equations.* SIAM journal of mathematical Analysis (1983) 138 - 141.
- [6] R. O. Ayeni, *Criteria for branched Chain Explosion.* Nigerian Journal of Natural Science (1981) 45 - 50.
- [7] R. O. Ayeni, *Quenching of solution of Non-Linear boundary Value problem of the parabolic type.* Nigerian journal of Natural Science (1982) 401 - 1406.
- [8] E. A. Akinrelere and R. O. Ayeni, *Schock waves in arterial blood flow.* Journal of Nigerian Mathematical Society (1983) 1 - 97.
- [9] E. A. Akinrelere and R. O. Ayeni, *On the separation of a forced Convection with frictional Heating.* Nigerian Journal of Natural Science (1983) 103 - 110.
- [10] R. O. Ayeni and E. A. Akinrelere, *On the temperature factor and the effect of isocosity on Blood temperature.* Journal of Theory of Biology (1984) 479 - 487.
- [11] R. O. Ayeni, E. A. Akinrelere, and J. O. Amoo, *On the Temperature of Radial Bearings 1.* (1985) Mathematika, 317 - 323.
- [12] E. A. Akinrelere and R. O. Ayeni, *Separation of a Free convection from a Heated Vertical Plate.* Africa Mathematika (1986) 3 - 31.
- [13] R. O. Ayeni, S. S. Okoya, S. A. Sanni and I. O. Ajibola, *On the Flow of petroleum Oil through pipes.* Nigerian Journal of Maths appl. (1988) 14 - 18.

- [14] R. O. Ayeni, *On the Behaviour of Oscillation Squeeze Films of Lubricating Oils.* Nigerian journal of Pure and Applied Science (1986) 1000 - 105.
- [15] E. A. Adebole and R. O. Ayeni, *The Need for New Approaches to the Teaching and Learning of Mathematics in our Schools.* Journal of Ondo Maths Association (1988) 20 - 23.
- [16] R. O. Ayeni, *Mathematics and its Applications.* The college Review (1988) 11 - 113.
- [17] R. O. Ayeni and S. S. Okoya, *On the skin Friction of an unsteady Free convection Flow past and Oscillating Vertical Porous Plate.* Afrika Matematika (1988) I01 - 107.
- [18] A. G. Adeagbo-Sheikh and R. O. Ayeni, *Goal-set Idealization: A system theoretic Guide to conceptual Modelling.* Nigerian journal of Science Technology (1988) 89 - 92.
- [19] R. O. Ayeni, S. S. Okoya and C. J. Agorzie, *On the Dissipation Layer of radial Bearings.* International Journal of Mathematical science (1988) 403 - 404.
- [20] R. O. Ayeni and G. S. S. Ludford, *Rigorous Bound on the Temperature of Unsteady Diffusion Flames.* Proc. SAN (1982) 62 - 82.
- [21] R. O. Ayeni, *Unsteady Variable Viscosity Flows Between concentric Cylinders.* Bail II (1983) 241 - 245.
- [22] R. O. Ayeni, *On the influence of temperature on the velocity field of Molten polymers.* NIC proc. (1983) 241 - 241.
- [23] E. A. Akinrelere and R. O. Ayeni, *Some remarks on the modeling of Arterial blood flow.* compt 1. proc. (1983) 86 - 90.
- [24] R. O. Ayeni and S. S. Okoya *Influence of Pressure Dependent viscosity on the temperature of Lubricating Oil.* compt II proc. (1986) 127 - 130.
- [25] R. O. Ayeni, E. A. Adebole and C. J. Agorzie, *On the flow of Blood Through Capilaries.* International workshop on Biomath (1988).
- [26] R. O. Ayeni, *On the Uniqueness of solution of System of Lubrication equation.* Science Research.
- [27] E. A. Adebole, C. J. Agorzie and R. O. Ayeni, *Asymptotic analysis of the Temperature field of a Micropolar fluid flow with Blowing and Suction.* Abacus (1988).
- [28] R. O. Ayeni, C. J. Agorzie, S. S. Okoya, K. Ogunmoyela and I. O. Ayomidele, *The Effect of slip velocity on the Temperature field of Blood Flowing in the Microcirculation* Comm. Heat Mass Transfer (1990) 511 - 520.
- [29] R. O. Ayeni, I. O. Ayomidele and P.F. Fasogbon, *Unsteady heat Transfer from a continuously stretching surface in the presence of solution of Blowing.* Afrika Matematika (1991) 169 - 174.
- [30] R. O. Ayeni and J. O. Oladele, *Heat transfer to a Liquid Film on an Unsteady stretching surface.* Journal of Nigeria Association of Maths Phys. (1992) 55 - 59.
- [31] R. O. Ayeni, K. O. Ogunmoyela and N. O. Ayomidele, *On the blow up and number of positive solutions of a Radiative stretching surface.* Nigerian journal of Science (1993) (to appear).
- [32] J. O. Oladele, P. Onumanyi and R. O. Ayeni, *Derivation of linear Multistep Methods of Initial Value Problems by Perturbed Collation.* Abacus (1993) (to appear).
- [33] R. O. Ayeni, Z. O. Ogunwobi and I. A. Adetunde, *Theory of flames and modeling some new results* Abacus (1996).
- [34] R. O. Ayeni, *A note on the dynamo theory.* ICESA (1995).
- [35] R. O. Ayeni, *Computational Technique for 3-d data processing.* ICESA (1995)
- [36] S. S. Okoya and R. O. Ayeni, *On the decay and boundness results for reactions with chain breaking kinetics.* J. Nig. Math. Soc. vol. 13, (1995) 33 - 35.
- [37] R. O. Ayeni, E. A. Adebole, P. F. Fasogbon, E. E. Joshua and O. Otolorin, *On the prediction of temperature rise due to microwave heating of tissues 1.* Modelling Measurement and control. 52, (1995) 33 - 38.

- [38] R. O. Ayeni, J. K. Ogunmoyela and Z. O. Ogunwobi, *Blow up set of near equations.* Nigeria J. of mathematics and Applications 8 (1) 1995 16 - 20
- [39] R. O. Ayeni, *Variable Viscosity reacting flows with conserved energy.* J. Nig. Math. phys. 89 - 93.
- [40] R. O. Ayeni, *Phase plane Analysis of a liquid front moving through a hot porous rock.* J. Nig. Math. Phys. (1999) 286 - 288.
- [41] F. I. Alao and R. O. Ayeni and R. A. Ademiluyi, *Numerical solution of a reaching viscous problem.* J. Nig. Ass. Math. Phyiscs 4 (2000) 187-200.
- [42] R. O. Ayeni and F. B. Agusto, *On the existence and uniqueness of self-similar diffusion equation equations.* J. Nig. Ass. Math Physics (2001) 183 - 186.
- [43] Olanrewaju, P. O. and Ayeni R. O., *Temperature of a Problem arising in combustion theory.* Proceeding of September 2001 annual conference (MAN) (2001) 139 - 145.
- [44] Ayeni R. O. and Olanrewaju P. O., *On the problem of Atmosphere diffusion and Pollution.* J. Of the Nigeria Mathematical Society, 21 (2002) 119 - 123.
- [45] Olanrewaju P. O. and Ayeni R. O., *Effect of frank-Kamenetskii parameter on strong detonation in a diverging vessel.* J. Nig. Ass. Math. Phys., 6 (2002) 268 - 272
- [46] Olanrewaju, P. O. and Ayeni R. O., *Effect of Geometry of vessel on detonations.* J. Nig. Ass. Math phys. Vols 6 (2002) 191 - 196.
- [47] Olajuwon B. I. and Ayeni R. O., *Temperature field of a power law fluid with large Brinkman number.* Proceeding of September (2001). Annual conference of MAN. (2001) 94 - 98.
- [48] Ayeni R. O. and Olajuwon B. I., *Unsteady Backward power law flow near a moving wall.* Journal of the Nigerian Association of Mathematics Physics, 5 (2001) 263.
- [49] Olajuwon B. I. and Ayeni R. O., *On the existence and uniqueness of a power law fluid flowing in a cylinder.* Journal of the Ni.geria Association of Physics, 6 (2002) 187 - 190.
- [50] Popoola A. O. and Ayeni R. O., *On a stefan problem arising from the theory of combustion.* Int. Journal of biological and Physics Science (SCHENCT FOCUS) 2, (2003) 103 - 107.
- [51] Ayeni R. O. and Ogunsola A. W., *Series solution for a boundary problem of unsteady flows in porous media* proceedings of Mathematics Association of Nigerian annual conference (September 2001).
- [52] R. O. Ayeni and Ogunsola A.W., *On the series solution second order non-linear ordinary differential equation method of frobenius revisited.* (ABACUS) Journal of the Mathematical Association of Nigerian, 29 (2) September (2002) 30 - 33.
- [53] Ayeni R. O. and Ogunsola A. W., *Flooding in a porous stratum: the associated pressure field.* (ABACUS) Journal of the Mathematical Association of Nigeria 29 (2) September (2002) 161 - 167.
- [54] R. O. Ayeni and Aregbesola Y. A. S. Ogunsola A. W. and others., *The influence of absorption coefficient on an unsteady free boundary problem in porous media.* ABACUS Journal of the Mathematical Association of Nigerian Vol. 29. No.2 September (2002) 47 - 49.
- [55] Ogunsola. A. W. and Ayeni R. O., *Similarity solution of the energy equation of an unsteady non-isothermal free boundary flow in porous media.* Journal of mathematical and Application. Vol. 16 (2). (2003) 123 - 129.
- [56] Ayeni R. O. et al., *Effect of heat loss on ignition times in the theory of branched chain explosions.* Journal of the Mathematical Association of Nigeria vol. 30, number 2 (sept. 2003) 52 - 57.
- [57] Adegbie K. S. and Ayeni R. O., *On the Existence and uniqueness of solution steady Branched chain Explosion with show Radia/Recombination.* Nigerian journal of Mathematics and Application Vol. 10 (2) (2003) 1 - 7.

- [58] Popoola O. K. and Ayeni R. O., *Effect of Hidden nodes in the theory learning* ABACUS Vol 21 (2004) 251 - 256.
- [59] Ayeni R. O. and Aregbosola Y. A. S., E. K. Adeyinka, *Effect of the initiation rate on branching rate in frank-kamenestkii type of solution science Focus* vol 3 (2003) 28 - 29
- [60] Ayeni R. O.. Adegbie K. S., *Theory of Generation of detonations* Proc. of Man 2003 15 - 17.
- [61] R. O. Ayeni A. M. Okedoye F. O. Balogun and T. O. Ayodele, *Higher order MHD of a uniformly stretched vertical permeable surface in the presence of heat generation\*absorption and chemical reactor* JNAMP (2004).
- [62] L. M. Erinle and R. O. Ayeni, *Mathematical Model of temperature rise in three layer skin during microwave hyperthermia* J. Nig. Math. Phy. (2005) 215 - 216.
- [63] R. O. Ayeni, A. M. Okedoye, A. O. Popoola and T. O. Ayodele, *Effect of radiation on the critical frank-Kamenestkii parameter of thermal ignition in a combustion gas containing fuel droplets* (2005) 217 - 220.
- [64] R. O. Ayeni, T. O. Ayodele and A. M. Okedoye, *On the effect of viscosity on sickle cell anemia* West African J. Biophy and Biomath,(2005) 10 - 18.
- [65] L. M. Erinle, R. O. Ayeni and O. O. Ayandokun, *Blood perfusion and temperature rise during microwave heating* West African J. Biophy and Biomath ,(2005) 1 - 9.
- [66] A. O. Popoola and R. O. Ayeni, *On the dependency of activation energies of a two-step Arrhenius reaction.* Abacus,(2005) 79 - 86.
- [67] K. S. Adegbie, F. I. Alao and R. O. Ayeni, *On thermal explosions of two-step exothermic reactions* Abacus 32,(2005) 152 - 158.
- [68] O. A. Ajala, R. O. Ayeni and P. I. Farayola, *The temperature field of a reacting system with a variable thermal conductivity,* Abacus 32,(2005) - 341.
- [69] R. O. Ayeni and T. Adeniran, *Dependencies of competition rate and predator rate on prey.* Abacus,33 (2005) 397 - 402.
- [70] T. O. Ayodele, R. O. Ayeni and L. M. Erinle, *A note on the two-sex model for the prevention of HIV/AIDS in varying population.* Abacus 32,(2005) 458 - 460
- [71] T. O. Ayodele, R. O. Ayeni and A. O. Olowu, *Initial HIV CTLS on viral replication in HIV patients,* West African J. Biophy and Biomath (2006).
- [72] L. M. Erinle. R. O. Ayeni and O. O. Ayandokun, *Effect of surface heating and blood perfusion index on temperature rise during microwave hyperthermia,* West African J. Bioph and biomath (2006).
- [73] R. O. Ayeni, A. O. Popoola and O. J. Fenuga, *Remarks on thermal explosions in the early evolution of the Earth,* Journal of Nigerian Association of Mathematical Physics 10 (2006) 069 - 070 .
- [74] R. O. Ayeni, A. W. Ogunsola, A. O. Popoola and O. O. Eweoya, *Biomechanics of the brain; some remarks on Biot's equation of consolidation theory with deformation-dependent permeability,* Journal of Nigerian Association of Mathematical Physics 10 (2006) 511 - 516.
- [75] R. O. Ayeni, A. M. Okedoye and E. A. Adebole, *On the possibility of multiplicity of temperature fields in a microwaves heating cancer therapy,* Journal of Nigerian Association of Mathematical Physics 10 (2006) 499 - 502
- [76] R. O. Ayeni, A. M. Okedoye, F. O. Balogun and F. A. Alao, *A new proof of multiple solutions of combustions problems,* Journal of Nigerian Association of Mathematical Physics. 10 (2006) 497 - 498.
- [77] P. O. Olanrewaju, R. O. Ayeni, A. O. Ajala, O. Adebimpe and A. O. Ajayi, *On the existence and uniqueness result for a two-step reactive diffusive equation with variable pre-exponential factor,* Journal of Nigerian Association of Mathematical Physics 10 (2006) 403 - 408.

- [78] A. O. Adesanya, O. J. Fenuga, O. O. Otolorin, R. O. Rufai and R. O. Ayeni, *Existence of a secondary flow for a temperature dependent viscous coquette flow.* Journal of Nigerian Association of Mathematical Physics 10 (2006) 257 - 260.
- [79] O. J. Fenuga and R. O. Ayeni, *[Impact of electric and magnetic fields in a resistant medium on the velocity of a particle subject to varying path angles.* Journal of Nigerian Association of Mathematical Physics 10 (2006) 235 - 238.
- [80] A. M. Okedoye, T. Adeniran, S. O. Adewale and R. O. Ayeni, *Unsteady magneto-hydrodynamic (MHD) flow of a uniformly stretched vertical permeable surface 1 in the presence of heat generation/absorption and a first order chemical reaction,* Journal of Nigerian Association of Mathematical Physics 10 (2006) 503 - 510.
- [81] A. O. Adesanya and R. O. Ayeni, *Radioactive effect on hydromagnetic flow of a radiating reacting gas with variable thermal conductivity in a vertical channel,* abacus 33 (2B): (2006) 330 - 344.
- [82] R. O. Ayeni and F. O. Balogun, *On the combined effect of the chemical reaction and a higher order temperature profile on the velocity of a stretched vertical permeable surface in the magneto hydrodynamic (MHD) flow in the presence of heat generation and absorption,* Global journal of Pure and Applied Science 12 (3) (2006) 421 - 428.
- [83] Ayeni R. O., Okedoye A. M. and Ayodele T. O., *A note on modeling menopause age,* Proceedings of the Annual National Conference of the Mathematical Association of Nigeria, (2006) 21 - 23.
- [84] R. O. Ayeni, F. O. Akinpelu and A. O. Popoola, *Effect of radioactive heat sources and gravitational differentiation on thermal explosion in the early evolution of the Earth,* Science Focus 12(i) (2006) 136 - 138.
- [85] R. O. Ayeni, F. O. Akinpelu and A. O. Popoola, *numerical solution of the energy equation associated with early evaluation of the Earth Science focus,* (2006).
- [86] R. O. Ayeni, F. O. Akinpelu and A. O. Popoola, *Some remarks on thermal explosions in the early evolution of the Earth,* Science Focus 12(i) (2006) 1 - 3
- [87] R. O. Ayeni, B. I. Olajuwon and A. O. Popoola, *Self-similar solution of a non-Newtonian Rayleigh problem with suction.* Proceedings of an international conference in honour of retiring Professor E. A. Akinrelere, Department of Mathematics, Obafemi Awolowo University. Ile-Ife, (2006) 29 - 33
- [88] O. A. Ajala, R. O. Ayeni, A. W. Ogunsola and S. O. Adewale, *A reacting flow with temperature dependent thermal conductivity.* Research J. of Applied Sciences (2007).
- [89] S. O. Adewale, R. O. Ayeni, O. A. Ajala and T. Adeniran, *A new generalized mathematical model for the study of appl. Science* (2007).
- [90] R. O. Ayeni, T. O. Oluyo and O. O. Ayandokun, *A mathematical model of the avian human interaction.* West J. of biomath and biophysics (2006).
- [91] R. O. Ayeni, A. M. Okedoye, O. O. Ayandokun and T. O. Ayodele, *On the existence of two solutions in chain thermal explosions.* Appreciating the future in mathematics (2005) 67 - 70.
- [92] A. J. Omowaye and R. O. Ayeni, *The effect of permeability on the temperature rise in a reacting porous medium.* Appreciating the future in mathematics,(2007) 85 - 87.
- [93] A. A. Waheed and R. O. Ayeni, *A note on the mathematical model on a a cigarette - like combustion.* Appreciating the future in mathematics,(2005) 115 - 119.
- [94] R. O. Ayeni, A. M. Okedoye and A. O. Popoola, *A note on the existence of secondary flows for a reacting poiseuille flow.* J. NMS Vol 25 (2006) 95 - 96.
- [95] T. O. Oluyo and R. O. Ayeni, *A mathematical model of virus neutralizing antibody response.* Research journal of Applied Sciences Vol. 2 (8) (2007) pp 889 - 891.

- [96] A. O. Popoola and R. O. Ayeni, *On the effect of reaction order on stability of two variable model for combustion in sealed container.* Research journal of Appl Sciences Vol. 2 No 8 (2007) pp 908 - 912.
- [97] E. A. Adebole, R. O. Ayeni and Y. A .S. Aregbesola, *Modelling multi-layered cancerous tissues.* Proc Ann. Conf science and Tech. Fotusm (2005) 16 - 17.
- [98] L. M. Erinle, R. O. Ayeni and A. O. Popoola, *On perfusion and heat transfer during cancer therapy* (2006) 1 - 9.
- [99] A. M. Okedoye, Adebimpe and R. O. Ayeni, *Temperature and concentration field in MHD flow of a stretched surface with buoyancy in the presence of heat generation/absorption and a first order chemical reaction.* West African journal of Biophysics and Biomathematics 2 (2007) 21 - 33.
- [100] A. J. Omowaye and R. O. Ayeni, *Remarks on self solutions for a non-linear parabolic equation with convection term.* West African journal of Biophysics and Biomathematics Vol 2. (2007)
- [101] E. A. Adebole, R. O. Ayeni and Y. A. S. Aregbesola, *Modelling multilayered cancerous tissue.* J. of scientific and Instrial Studies 3 (4) (2005) 1 - 7
- [102] A. W. Ogunsola and R. O. Ayeni , *Similarity solutions of free boundary glows in porous media with variable permeability.* J. Mathematical Sciences (2007) 143 - 152.
- [103] R. O. Ayeni, O. Otolorin, K. S. Adegbie and T. O. Ayodele, *Effect of Frank-Kamenetskii parameter on thermal explosion in flammable gas containing fuel droplets.* Ife Journal of Science 8 (2) (2006) 55 - 60.
- [104] E. O. Omidiara, O. A. Fakoluyo, R. O. Ayeni, S. O. Olayibisi and O. T. Arologun, *Quantitative evaluation of principle component analysis and fisher descriminant analysis technique in face image* J. Computer Science and its application 15 (2008) 22 - 37.
- [105] S. O. Olabiyisi, R. O. Ayeni, E. O. Omidiara and O. A. Bello, *Universal for complex measurement of computer programs.* J. Computer Science and its application (2008) pp 73 - 81.
- [106] R. O. Ayeni and S. O. Adewale, *Software system for diagnosis and classification of diabetes mellitus.* Proceedings of NSC (2008) 349 - 354.
- [107] S. O. Olabiyisi, E. O. Omidiara and R. O. Ayeni, *Development of an E-commerce model in a rural area in Nigeria.* Proceedings of NCS (2008) 69 - 74.
- [108] S. O. Adesanya, R. A. Williams and R. O. Ayeni, *Entropy generation in a reacting pressure/temperature dependent flow with heat transfer between parallel plates.*(2008) J. Research in physical science Vol 4 No. 1, (2008) 100 - 106.
- [109] O. J. Emuoyiborfarhe, O. Emuoyiborfarhe and R. O. Ayeni, *A comparative analaysis of the computational complexity of selected object oriented programming language on mergosort algorithm.* J. Research in physical Sciences (2009) 48 - 56.
- [110] S. O. Adesanya and R. O. Ayeni, *Heat transfer to poiseuille flow of a reading pressure and temperature dependent viscosity in a channel.* J. Modern Maths and statistics 2 (2) (2008) pp 40 - 44.
- [111] Bello O. A., Ayeni R. O. and Fakolujo O. A., *Natural inspired optimization methods: The ant algorithm* Int. J. Phy. Sci. 3 (2), (2008) 77 - 84.
- [112] O. J. Fenuga and R. O. Ayeni, *Effect of a magnetic field in a rotating fluid flow.* Journal of the Nigerian Association of Mathematical Physics, 14 (2009) 261 - 266.
- [113] R. O. Olayiwola, A. T. Cole, D. Hakimi and R. O. Ayeni, *Mathematical modeling of the calcinations process.* Journal of the Nigerian Association of Mathematical Physics, 14 (2008) 381 - 388.
- [114] O. T. Lamidi, A. M. Okedoye and R. O. Ayeni, *Influence of power-law exponent on an unsteady endothermic,* journal of the Nigerian Association of Mathematical Physics, Vol. 15 (2009) 447 - 452.

- [115] R. O. Ayeni, T. O. Oluyo and A. M. Okedoye, *A note on the effect of affinity hemodialysis on T-Cell depletion.* Journal of the Nigerian Association of Mathematical Physics, 15 (2009) 443 - 446.
- [116] R. O. Ayeni and F. R. Sodique, *Modelling atmospheric temperature rise due to pollutants and its implications on agriculture.* Journal of the Nigerian Association of Mathematical Physics, 15 (2009) 431 - 436.
- [117] R. O. Ayeni, S. O. Adesanya and S.C. Osuala, *Properties of steady solution of a reacting non-Newtonian viscous MHD poiseuille flow.* Journal of the Nigerian Association of Mathematical Physics. 15 (2009) 533 - 536.
- [118] S. O. Adesanya, S. O. Ajala and R. O. Ayeni, *Effect of couple stresses on hydro-magnetic flow of blood through a stenosed coronary artery.* Journal of the Nigerian Association of Mathematical Physics, 15 (2009) 523 - 532.
- [119] S. O. Adesanya, S. O. Ajala and R. O. Ayeni, *A numerical study of the hemodynamics of stenosed artery.* Journal of the Nigerian Association of Mathematical Physics, 15 (2009) 513 - 522.
- [120] R. O. Ayeni, A. O. Popoola, A. J. Omowaye and O. B. Ayeni, *MHD flow and heat transfer of a viscous reacting fluid over a stretching sheet,* journal of the Nigerian Association of Mathematical Physics, 15 (2009) 485 - 490.
- [121] A. J. Omowaye and R. O. Ayeni, *Unsteady MHD free convection glow and heat transfer along an infinite vertical porous plate under Arrhenius Kinetics.* Journal of the Nigerian Association of Mathematical Physics, 15 (2009) 477 - 484.
- [122] E. Hougnou, S. Massou, S. Monssiliou, S. Moumouni and R. O. Ayeni, *Detection of several kinds of waves in equatorial ionosphere with high resolution vertical HF radar,* science focus, 15 (2010) 143 - 154.
- [123] S. O. Adesanya, E. S. Babadipe and R. O. Ayeni, *Asymtotic expansion method for solving variable viscous flow of Maxwell fluid.* Report opinion 2 (ii) (2010) 14 - 16.
- [124] R. O. Ayeni, O. Adebimpe, T. O. Oluyo, S. O. Adewale A. O. Popoola and A. W. Ogunsola, *Effect of transmission rate in a SIR epidemic model* JNAMP (2010).
- [125] Adepoju O. A. and R. O. Ayeni, *A variable thermal conductivity flow of a micropolar fluid over a stretching surface in a non-Dorcian porous medium.* J. NAMP 17 (2010) 115 - 118.
- [126] E. A. Bakare and R. O. Ayeni, *On the stability criteria for prey-predator generalized model.*(2010) J. NAMP 16 241 - 252.
- [127] Audu O. Celestina and R. O. Ayeni, *Can the theory of filtration at a decreasing rate.* J.NAMP 16 (2010) 305 - 376.
- [128] A. R. Hassan and R. O. Ayeni, *On the flow of Maxwell fluid between two walls induced by a constantly accelerating plate.* J.NAMP 17 (2010) 129 - 132.
- [129] R. O. Ayeni, O. Adebimpe, T. O. Oluyo, S. O. Adewale, A. O. Popoola and A. W. Ogunsola, *Effect of transmission rate in an SIR epidemic model.* J. NAMP 17 (2010) 157 -164.
- [130] B. A. Peter and R. O. Ayeni, *A note on unsteady temperature equation for gravity flow of a power-law fluid through a porous medium* J. NAMP.(2011).
- [131] M. O. Aborode and R. O. Ayeni, *On the effect of affinity hemodialysis on HIV / AIDS.* J. NAMP.
- [132] T. O. Oluyo and R. O. Ayeni, *Modelling HIV epidemic under constant tracing-A remark.* J. NAMP.(2011).
- [133] O. O. Ayandokun, R. O. Ayeni, T. O. Oluyo and B. Gbadamosi, *Further remarks on vaccination for non-fatal susceptible infective susceptible (SIS) diseases.* J. NAMP. (2011).
- [134] R. O. Ayeni, A. O. Popoola and O. T. Lamidi, *Free convective flow of a reacting fluid between vertical porous plates.* J. NAMP.(2011).

- [135] M. O. Durojaiye and R. O. Ayeni, *A numerical study of reaction Kinetics model of polymerization in the presence of material diffusion using finite difference scheme.* J. NAMP.(2011).
- [136] M. O. Durojaiye and R. O. Ayeni, *Reaction Kinetic model of polymerization in the absence of material diffusion.* J. NAMP.(2011).
- [137] B. A. Peter and R. O. Ayeni, *Analytical solution of unsteady gravity flows of a power-law fluid through a porous medium.*(2011).
- [138] S. O. Adesanya and R. O. Ayeni, *Existence and Uniqueness Result for Couple Stress Bio-Fluid Flow Model via Adomian Decomposition Method,* Int. J. nonlinear Science, 12 (2011) 16 - 24.
- [139] O. T. Lamidi and R. O. Ayeni, *Analytical solution of a steady non-reacting laminar fluid flow in a channel filled with saturated porous media with two distinct horizontal impermeable wall conditions.* J. Nat. Sc. Res (2012) 80 - 90.
- [140] R. O. Ayeni, A. O. Popoola and J. K. Ogunmoyela, *Some new results on affinity hemodialysis and T cell recovery* J. Bacteriology Research (2012) 001 - 004.
- [141] R. O. Ayeni, B. Gbadamosi, S. Olaniyi and M. L. Erinle-Ibrahim, *stability analysis for a mathematical model for the determination of optimum drug for chemotherapy of HIV.* J. NAMP. (2012) 115 - 118.